KANSAS MEDICINE

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First Quarterly Issue. See "To Our Readers," page 4.



### KANSAS MEDICINE

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his issue brings not only a new artist but a new medium to the cover of KANSAS MEDICINE. Vernon Brejcha is the former and blown glass the latter. Visitors to the KMS office late last fall had an opportunity to view two of Brejcha's glass forms, which were on display in the lobby. One large piece (about 18" high), very similar to the cover subject, was placed in an east window, where the morning sun enlivened the many colors embedded inside the clear exterior.

The work on the cover is part of a series called "Posts from the Memory Fenceline," which echo the stone fence posts and the colors found around Holyrood (in central Kansas), where Vernon Brejcha spent his boyhood. He explains the posts this way: "I grew up on a ranch where these posts traversed the landscape. To me they have always been the ideal representation of the clash between civilization and the natural world, between the Native and Western cultures. Fluid glass has been the perfect medium for me in seeking new forms to express the meaning of the posts: the landscapes and atmosphere I infuse into them, and the stories of heritage that I tell through them, for each of them tells a tale."

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Kansas Medicine
 Spring 1995

The stone posts were an innovative response to the lack of trees on the prairie. Early settlers, needing fences, quarried local limestone, cut it into 500-pound posts and drilled holes in them for the wire. Except for an area between Ellsworth and Hays called Post Rock Country, where many still remain, the posts are disappearing from the Kansas landscape.

Originally a painter, Vernon Brejcha fell in love with blown glass when he saw some pieces at a show in Wichita. After mastering the technique himself, he found it the most appropriate medium to express his memories of the western Kansas prairie. Just as a limestone post may evoke thoughts of life on the plains, a glass post may depict different sorts of memories of the same place: the color of the sky on a spring morning, perhaps, the green of new grass sprouting from the dead winter earth, or the clouds that will bring rain.

Vernon Brejcha also makes two other evocative glass forms suggestive of Kansas history: brightly colored peace pipes and highly stylized dippers. Of the pipes he states, "As we are about to enter a new century, the idea of a ceremonial pipe intrigues and inspires me. The concepts of peace and freedom must be kept alive, as much now as ever — if not more so." The glass dippers recall a time when "on the ranch we drank from the well with a dipper; a dipper banged on a pan brought us to our meals from the fields; a dipper was used to break the ice on the kitchen bucket on the bitter winter mornings. . . . Glass has allowed me to explore this basic object and turn it into something both fluid and organic; into a thing of wonder."

The glass creations of Vernon Brejcha are just that: things of wonder. They may be seen in Kansas City, Missouri, at Leopold International gallery in the Savoy Hotel.

### HAVE YOU MOVED RECENTLY?

Don't forget to let KMS know! Please complete and return the change-of-address form on page 26.

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#### **ABOUT OUR LOGO**

In January 1935, a new logo appeared on the cover of KANSAS MEDICINE for the first time. This device represents two stethoscopes: the original monaural type as used by Läennec, and the modern binaural variety. The logo was designed expressly for KANSAS MEDICINE by renowned graphic designer Bradbury Thompson, a native of Topeka and friend of two former editors of the journal, Dr. W.M. Mills and Dr. Lucien Pyle. As another former editor, Dr. Orville R. Clark, wrote in January 1955, the logo "has become as much a part of the journal as any of the features on the inside and is something which is ours alone."

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The Kansas Foundation for Medical Care is seeking a physician to assume the overall responsibilities for Health Care Quality Improvement Program activities. The individual will serve as a focus for change within the organization and in the provider and practitioner The candidate must be board community. certified in an allopathic or osteopathic specialty and possess strong interpersonal and communications skills. Preference will be given candidates holding credentials Epidemiology or Public Health. Candidates should be licensed to practice medicine or surgery in Kansas; or capable of acquiring a Kansas license.

The Kansas Foundation for Medical Care is a physician sponsored organization dedicated to improving the quality of patient care.

Qualified candidates, please submit CVs to: Evelyn Headley, Manager, Human Resources, Kansas Foundation For Medical Care, 2947 SW Wanamaker Drive, Topeka KS 66614, EOE

# The Pillars of Medicine, by a Pillar of Medicine

hilippus Aureolus Theophrastus Bombastus von Hohenheim, 1493?-1541, was a physician born in Einsiedeln, Switzerland. As a young man, he gave himself the name by which we have come to know him: Paracelsus. He received his early education from his father, also a physician and



chemist. Paracelsus pioneered the application of chemistry to medicine and introduced many drugs, the best known of which was laudanum, the tincture of opium, used in the relief of pain.

An outspoken independent thinker with a healthy ego, Paracelsus brought controversy with him as he traveled through Europe. During a stint in 1526-28 as town physician in Basel, which also required him to teach, he sharply attacked the foundations of ancient and medieval medicine, burning the works of Galen and criticizing the traditional teaching of medicine by textual analysis. "The patients are your textbook," he told his students, "the sickbed is your study." In another break with tradition, he taught in German instead

### TO OUR READERS

This Spring issue of Kansas Medicine is the first published as a quarterly. It is also the first published in 1995, and you may wonder why. As we planned changes to the journal, we also made the decision to rework the *KMS Membership Directory*, and to mail it as a companion to the Spring 1995 journal so that it would qualify under our 2nd class bulk mail permit. Unfortunately, it has taken longer than we expected to complete work on the new directory. We now anticipate mailing it later in the year with another issue of Kansas Medicine.

The Summer journal will be published in late August, and the Fall issue will appear, as scheduled, at the end of September. Our Winter publication date is set for the end of December. Thank you for your patience during our "remodeling."

of Latin and admitted barber surgeons to his lectures. To the dismay of the business community, he refused to prescribe the medicines of the local apothecaries. As if this were not enough, he was a Catholic with tendencies toward the occult, while the rest of northern Europe embraced the Reformation.

Not surprisingly, his views were greeted with opposition by the medical establishment of the day, and he was forced to flee Basel to avoid imprisonment. Still, he did have some remarkable successes as a healer — which led the populace to suspect that he was the infamous Dr. Faustus. But perhaps what accounted for his success was his inclination to reject rote learning, question the reasoning that "we've always done it that way," and to observe the symptoms of his patients and the properties of the herbs he used to treat them.

So, while we pride ourselves on having outgrown the simpleminded adherence to the magic and sorcery of Paracelsus' time, an examination of his principles is still worthwhile. Considering the general ignorance of science and medicine that prevailed in the sixteenth century, the depth of his knowledge and the soundness of his wisdom are surprising.

Some of Paracelsus' theories foreshadowed modern medical practice. He was the first to note the relationship of endemic goiter in the parent and the existence of cretinism in the child. His monograph on miners' diseases contains descriptions of miners' phthisis and the effects of coal gas. Many of his observations, far from reflecting the superstitions of his era, were original and far ahead of his time.

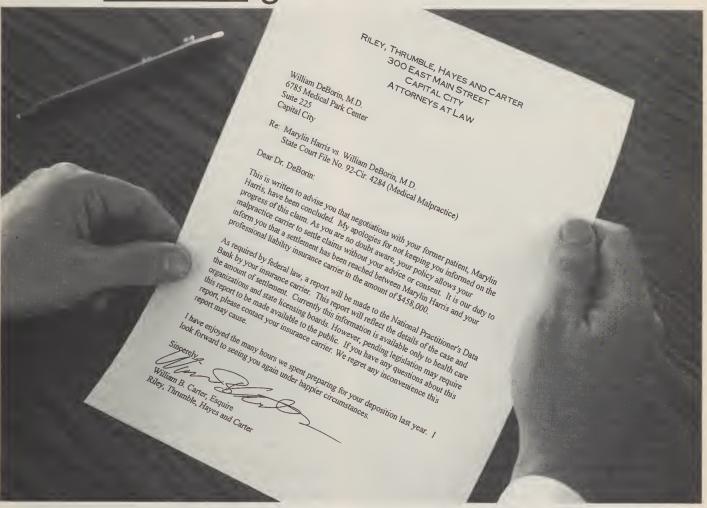
The Pillars of Medicine are statements by Paracelsus that illustrate his feelings about the practice of medicine. Although written centuries ago, they have validity today and can still be of value to those of us who carry the mantle of responsibility for the care of the sick.

#### THE PILLARS OF MEDICINE

• He who wants to know a man must look

(Continued on page 7.)

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### **DELEGATE'S REPORT**

### **AMA** Interim Meeting

The AMA House of Delegates convened in Honolulu, December 4–7, 1994. The House considered 190 resolutions and 92 Board and Council reports on topics affecting medical practice and the public health of the American people. There were 413 delegates seated.

Managed Care

A Board of Trustees report described current trends in managed care, summarized risks and opportunities for physicians and patients, and presented a detailed AMA strategy for managed care and the private sector.

The House approved the report, emphasizing the following four principles: 1) professionalism — medical science and ethics; 2) patient and physician autonomy; 3) patient and physician rights; and 4) practical assistance to physicians.

The House also adopted a substitute resolution specifically calling on the AMA to undertake or continue the following activities: 1) support, at the federal and state level, the "Patient Protection Act"; 2) identify and publish those cost factors contributing to the escalation of health care costs, with particular attention to patient responsibility and administrative costs; 3) support state and county efforts on behalf of member physicians deselected by managed care plans for other than quality reasons; 4) investigate and publicize the ways managed care can be involved in education, training and research; and 5) evaluate the impact of managed care plans on medical care quality and medical ethics, and identify those practices that adversely affect the delivery of quality health care services.

The House also adopted policies on the following issues: financial incentives, post-operative services, pediatric subspecialists, board certification, residents, medical consensus, patient/physician decision-making, physician contracts and services, patient education, and population-based practices.

### Health System Reform

The Board of Trustees submitted a report that presented an update on AMA efforts to advance our health system reform policy and goals. It included recommendations and objectives for

1995. The House adopted as amended the following recommendations:

1) that the AMA continue to vigorously pursue with Congress and the Administration the strengthening of our health care system for the benefit of all patients and physicians by advocating policies that put patients, and the patient/physician relationship, at the forefront;

2) that the AMA seek an incremental approach to health system reform, targeted by patient care needs and guided by a set of priorities that includes, but is not limited to, insurance reform, medical savings accounts, tort reform, antitrust relief, opposition to Medicare and Medicaid cuts, and support for the Patient Protection Act;

3) that the central focus of AMA's reform campaigns in 1995 be the Patient Protection Act, professional liability reform, insurance reform, medical savings accounts, regulatory reform and physician network/antitrust relief as the most immediate ways to expand patient choice, improve quality and enhance professionalism;

4) that the AMA further increase choice and cost-consciousness by advocating the development of voluntary purchasing groups, a wide variety of choice of plans and, where an employer contributes to health plan costs, a standard dollar contribution toward an employee's insurance, irrespective of the plan chosen;

5) that the AMA reaffirm the profession's historic commitment to public health, public service and to providing care to those in need, and that AMA councils search for ways to expand access to care consistent with an incremental reform approach;

6) that the AMA fight for adequate funding for federal health care programs, Medicare and Medicaid in particular; that AMA further advocate for long-term reform of those programs, which insures their effectiveness and fiscal soundness, and against reimbursement reductions which promote cost shifting, diminish access and reduce the quality of care for beneficiaries; and

7) that the AMA reaffirm policy which calls on the AMA to continue to develop and implement the State Health System Reform Action Group (SHRAG) initiative to provide meaningful assistance on state health system reform matters upon their request to state medical societies.

### Employer Control of Health Insurance Choices

The Council on Medical Service reported on a study of ways to discourage control of employee health insurance choices by employers. The Council modified several existing AMA policies into a single, concise statement.

McCarran-Ferguson Act

The House amended and adopted a resolution that asks the AMA to call for the repeal of the "insurance industry antitrust exemption" under the McCarran-Ferguson Act and/or pursue other legislative strategies to level the playing field, and to support existing legislative proposals before Congress or seek sponsorship of new legislation which would repeal the "insurance industry antitrust exemption" under the McCarran-Ferguson Act.

State Health System Reform

The House approved a substitute resolution asking the AMA to continue to work with state medical societies, at their request, on state-directed health system reform, to complement our efforts at national health system reform, and encourage and support federal legislation, at the request of state medical societies, including the necessary ERISA, Medicaid, and other federal waivers, to allow those states to implement health system reform at the state level.

Many other issues were considered. If you desire additional information on any of these subjects, please contact one of the delegation members or the KMS office (800-332-0156 or 913-235-2383).

Kermit G. Wedel, M.D.

### **EDITORIAL COMMENT**

(Continued from page 4.)

upon him as a whole and not as a patched-up piece of work. If he finds a part of the human body diseased, he must look for the causes which produce the disease, and not merely treat the external effects. Philosophy — the true perception and understanding of cause and effect — is the mother of the physician. In this understanding rests the indication of the true remedy, and he who is not able to understand will accomplish nothing.

• Nature — not man — is the physician. . . . Try to enable yourself to follow Nature and she will be your instructor. Learn to know the storehouse of Nature and the boxes in which her virtues are stored up. The ways of Nature are simple, and she does not require any complicated prescriptions.

• A physician who is true to his own higher self will also have faith in himself, and he who has that faith will easily command the faith of

the people.

• To cure diseases is an *art* which cannot be acquired by the mere reading of books, but which must be learned by experience. Neither emperors nor popes, neither colleges nor schools, can create physicians. They can confer privileges and cause a person who is not a physician to appear as if he were one, but they cannot cause him to be what he is not.

Though the face of medicine is changing rapidly, the observations of Paracelsus and other physicians of the past can provide a link with medicine's long tradition and inspire us on our journey toward the future. W.E.M.

### MARK YOUR CALENDAR! KMS "Women in Medicine" Conference

Wichita September 29-30, 1995

### Legal Issues in Managed Care

WAYNE T. STRATTON, J.D.,\* Topeka

Tort Litigation

There was a time in which physicians were almost principally responsible for the quality of medical care rendered to a patient. This was best exemplified by a concept called the "Captain of the Ship" doctrine, which was applied in surgery cases. Ac-



cording to this doctrine, a physician was responsible for the acts of the employees of a hospital administering care at the direction of the physician. The logic behind this was that the hospital's employees were effectively lent to the otherwise

independent physician.

The health care system is changing, and traditional tort principles of health care delivery are evolving. Physicians are often not independent operating entities. Rather, the hospital, third-party payers and many other entities provide input into the treatment decisions and can overrule, or at least dramatically affect, the decisions a physician makes in providing treatment to a patient. Moreover, these physicians frequently find themselves engaged in practices in which they are no longer an independent entity directing health care, but rather part of an integrated health care delivery system.

As more entities become involved in the intimate details of health care decisions involving patients, those entities simultaneously become responsible to patients, owing them a duty to behave reasonably under the circumstances. A violation of that duty can give rise to liability.

For the most part, the theories that these lawsuits could be based upon are not new to the law, simply new to the environment of health care. Health care entities' liability may be based simply on the reality of an employer/employee relationship. For example, physicians who work for a staff model HMO may be employed by that HMO. Under those situations, the employer may be held vicariously liable for any acts of malpractice committed by its employee.

Managed care utilization review processes create potential liabilities. Other states' courts have determined that a physician can be held liable if the utilization review process wrongfully denies a course of treatment, and the physician does not become a zealous advocate of the patient's rights. The extent to which the physician has a duty to exhaust appeal rights or take additional steps to assist the patient has not been determined. One court has said:

"The physician who complies without protest with the limitations imposed by a third party payor, when his medical judgment dictates otherwise, cannot avoid his ultimate responsibility for his patient's care. He cannot point to the health care payor as the liability scapegoat when the consequences of his own determinative medical decisions go sour."

In a sense, a physician's potential for liability really has not changed. He or she still owes a responsibility to act as any other reasonably competent practitioner would under similar circumstances. The potential expansion that imposes a duty upon a physician to be an advocate for the patient against an entity's utilization review process has not been determined in Kansas.

ERISA Preemption of State Liability Laws

Many will find it surprising that a patient's health plan may completely shield a health care entity from many forms of liability. This is due to the effect of the Employee Retirement Income Security Act of 1974 (ERISA). In an effort to provide uniformity and consistency in employee retirement or benefit programs, Congress has provided that ERISA supersede any and all state laws insofar as they may relate to any employee benefit plan. This means that claims such as violations of negligence law, wrongful death claims, and other

\*KMS Legal Counsel.

Comments appearing herein are not intended as a substitute for legal analysis or advice. Answers to legal questions depend largely upon the particular facts of a case. The reader is urged to consult an attorney for answers to specific legal questions.

These comments do not necessarily represent the views of Kansas Medical Society. For further information, contact Mr. Stratton, 515 S. Kansas, Topeka, KS 66603.

forms of professional malpractice which are all based upon state law will not be enforced if the act in question related to the plan's administration.

While these statements may sound clear, and their effect may seem dramatic, courts have tended to apply the concept of ERISA preemption very inconsistently. Even though ERISA preemption is read quite broadly by the courts to include a much larger scope than was ever considered by Congress, it is difficult to predict what the courts will rule in any particular situation. In order to invoke ERISA preemption, the court must determine that a particular action in question "relates to" the employee benefit plan. This determination is often made on the language of the contracts involved, the particular circumstances under which the claim is based, and how closely all of those relate to the administration of the plan.

For example, one health plan was accused of negligently failing to provide treatment for a patient who suffered from inducible ventricular tachycardia and needed formal electrophysiologically guided left ventricular aneurysm resection and subendocardial resection, as well as bypass surgery. There was no local facility to perform this surgery, so the patient was advised to schedule it elsewhere. Because of an administrative breakdown, when the patient arrived for his surgery, he discovered that it had been canceled because his health plan had not pre-approved the procedure. Due to his deteriorating condition, the patient was unable to reschedule the surgery in a sufficient amount of time and died. In that case, the court stated that the decision of whether or not to approve specific procedures directly related to the employee health plan, and all claims, including the widow's claim for infliction of emotional distress, were preempted by ERISA.

ERISA has preempted claims involving the liability of employers under their health care plan. Employer liability may be the clearest case of the type of administration of a plan protected by ERISA preemption. However, employers have been held to be liable for intentional torts relating to failure to follow physicians' advice in requiring employees to return to work. ERISA has also been found to generally preempt the liability of plan administrators and insurers.

As for the individual practitioner, there is less of a likelihood that ERISA would preempt a claim based upon malpractice. However, if the alleged negligent act related to plan administration it too would be preempted by ERISA. For example, if under the terms of the plan, it is the physician's responsibility to certify or determine whether or not specialized care is needed and should be compensated for under the plan, that decision may well relate to the plan's administration and be preempted by ERISA. This is a situation that can be particularly important when issues arise involving utilization review. A claim based upon the duty of a physician to act as a patient advocate, as mentioned above, could, in theory, be preempted. The physician's liability would depend upon whether that activity related to administration of the plan.

The case law relating to ERISA preemption is still in a very early stage of development. Currently ERISA preempts many broad-based state efforts at health care reform. This is because such a large portion of the health care market falls under ERISA preemption. States which attempt massive health care reform must get a Congressionally granted exception to the ERISA statute. Hawaii was granted such a waiver. In those situations state law would no longer be preempted.

While the state of the law is still sufficiently unsettled to grant any wide degree of certainty for planning purposes, the possibility of ERISA preemption could be an important defense in a claim asserted against a defendant in the health care industry.

Since publication of "Birth-Related Neurological Injury Compensation Programs," in the December column, the following information has been received:

- 1) The language of the Virginia birth-related neurological injury statute was changed in an effort to characterize cerebral palsy cases more accurately. It now states the infant must be left "permanently motorically disabled," and either "developmentally or cognitively disabled." (Va. Code Ann. 38.2-5002D)
- 2) Erratum: The December article was in error where it stated that Virginia's statutory cap on damages had been ruled unconstitutional. It was Florida's cap which had been ruled unconstitutional and became one of the catalysts for their birth-related neurological injury compensation program.

The author would like to thank Mr. Joseph P. McMenamin of McGuire, Woods, Battle & Boothe LLP, Richmond, Virginia, for providing this information.

### Emergency Medicine in Kansas: The Last Piece of the Puzzle

JOHN H. JETER, M.D.,\* AND DENNIS M. ALLIN, M.D.,† Kansas City

When the American College of Emergency Physicians (ACEP) was organized in 1968, it was thought that emergency medicine would be the last major specialty in the United States. So in designing their logo, the ACEP founders used a checkerboard pattern with all the squares filled in save one — the blank square representing emergency medicine. But in Kansas, this square still may be blank after 25 years. Will emergency medicine progress as a specialty here?

The Concept of Emergency Medicine

The concept of the specialty was born in 1961 in Alexandria, Virginia, from a need for service, rather than a need for science. However, the founders realized that their new practice also had potential viability as a specialty. Interest in practicing emergency medicine developed throughout the United States during the 1960s; in just a few years the specialty became a part of many medical communities. Membership in ACEP grew quickly and now numbers over 16,000 members. The first emergency medicine residency program began training emergency physicians in 1970 and was quickly followed by the emergence of programs elsewhere. In 1976, with establishment of the American Board of Emergency Medicine, evaluation development began. The first written and oral board examinations were given in 1980 to emergency physicians who met the board preparation requirements.

Now, with few exceptions, board preparation is attained only through successful completion of an approved emergency medicine residency program. There are approximately 800 residency graduates per year from 101 approved residencies who meet the qualifications to sit for the emer-

gency medicine boards. But while the specialty has developed elsewhere, there is no emergency medicine residency program in Kansas.

In 1989 the American Board of Medical Specialties recognized the American Board of Emergency Medicine as a primary board, thus establishing emergency medicine as a specialty with a unique body of knowledge.

There are now 5,600 emergency departments in the United States and 25,000 emergency physicians. More than 10,500 of these physicians have passed the board examination, including 4,000 who have completed residencies in emergency medicine — most of the rest, excluding recent residency graduates, are without board preparation/eligibility.

Kansas hospitals have only a small emergency medicine pool to provide coverage for their emergency departments. And there are only a few emergency physicians in the state with board certification in their specialty. Excluding metropolitan Kansas City, the shortage of residency-trained and/or board-certified emergency physicians is dramatic, perhaps as striking as can be found in any region. The demographics of Kansas emergency medicine were presented at the University of Kansas School of Medicine's 10-year reunion program in 1991. The study confirmed that residency-trained emergency physicians concentrate in states and areas where residency programs exist, a trend previously identified.2 The extreme difficulty in staffing non-urban emergency departments was also observed, especially in those with an emergency patient census below 10,000 per year.

In 1973 an emergency medicine residency began at Kansas City (Missouri) General Hospital, now Truman Medical Center. This program has trained most of the practicing residency-trained emergency physicians in metropolitan Kansas City, including about 20 on the Kansas side. There are no Truman graduates in the remainder of Kansas, nor has Kansas drawn many graduates in emergency medicine from neighboring programs at Denver General Hospital, the University

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of Arkansas, or the University of Oklahoma.

Clearly, emergency medicine in Kansas is suffering growing pains, especially beyond Kansas City. Emergency physicians locally recognize that a residency program affiliated with the University of Kansas School of Medicine is necessary to complete the evolution of the specialty in Kansas.

At their 1993 annual meeting, the Kansas Academy of Family Physicians introduced a resolution opposing the development of an emergency medicine residency in Kansas, voicing a concern that limited resources in primary care might be diverted.<sup>3</sup> Though these views are not shared by the entire academy, such discussions within the leadership of family medicine are especially alarming to emergency physicians.

A recent study suggests that true differences do exist in the outcomes of patients treated by emergency medicine board-prepared/certified emergency physicians when compared with nonemergency medicine board-prepared physicians.<sup>4</sup> In this study by McNamara and Kelly, process evaluation was used to compare two groups of physicians at a single institution when a complete change of staffing occurred. Another issue of paramount importance is cost control. In a 1992 study, McNamara and Kelly show from the same study population that residency-trained emergency physicians provide less expensive care, even while supervising within a residency program.<sup>5</sup> This is an unusual finding in a university medical center. Both of these studies are important contributions toward understanding the potential of residency training in emergency medicine.

Trott and Blackwell, in their study of academic emergency medicine in United States medical schools, show the recent interest at traditional university institutions in establishing academic programs. Thirty-eight medical schools currently without academic emergency medicine units responded to their survey with 18% indicating they are currently establishing units, 10% in the planning stages, 40% with institutional support but no current plans, and only 10% having no institutional support or plans for academic emergency medicine.

The emergency medicine training of residents from other primary care specialties may be inferior at institutions without emergency medicine residencies. Medical schools without such programs generally lack residency-trained emergency physicians on their faculties. Chernow et al. studied university institutions without emergency medicine residency programs and found that: only 68%

of medical directors were board-certified in emergency medicine; 20% had no board-certified emergency physicians at all; 75% reported difficulty in recruiting additional emergency physicians; and overall only 50% of the faculty were board-certified in emergency medicine.<sup>7</sup> In contrast, they found that 80% of the faculty of medical schools with emergency medicine residencies were board-certified, with only 25% reporting difficulty recruiting additional physicians. They found that few institutions without emergency medicine residency programs had formal curricula for the residents or students. The study argues that residents from many specialties may encounter problems in obtaining a quality education during their required rotations or other encounters in the emergency departments of institutions without an emergency medicine residency.

In April of 1994, the Josiah Macy Jr. Foundation met to discuss emergency medicine and its future in the United States. D. Kay Clawson, M.D., former Executive Vice-Chancellor of the University of Kansas School of Medicine in Kansas City, served on the 38-person panel. Briefly, their recommendations are:

- The United States Public Health Service should state as a goal that access to high-quality emergency care should be available to all.
- Federal, state and local governmental organizations, including COGME, should ensure that the number of emergency medicine residency positions is not reduced.
- SAEM (Society of Academic Emergency Medicine), ACEP and the JCAHO should revise the classification of EDs to reflect the level of care available.
- State licensing boards, the National Board of Medical Examiners, the Liaison Committee of Medical Education, and medical schools should ensure that every medical student has acquired the appropriate knowledge to care for emergency patients.
- Medical schools should establish staffed and supported academic departments of emergency medicine.
- ACEP and SAEM should quickly convene a conference to develop a research agenda in emergency medicine and define ways to implement it.8

While ACEP and the authors largely agree with these findings, increasing the number of residency slots in some areas seems prudent as certain regions are more underserved than others. In addition, classifying emergency departments to reflect their presumed level of care is controversial and would possibly engender unnecessary negative public perception, especially in non-urban or underserved urban EDs.

Also, in April 1994, the National Highway Traffic Safety Administration (NHTSA) Technical Assistance Team visited Kansas to provide an evaluation of the Kansas statewide EMS program. They provided 10 recommendations covering regulation and policy, resource management, human resources and training, transportation, facilities, communications, public information and education, medical direction, trauma systems, and evaluation. They noted that medical direction in particular is lacking, and they observed the "shortage of full-time emergency physicians across the state, [limiting] the ability of services to recruit MAs [medical advisors] primarily involved in emergency care." They also identified a disparity between urban and rural MAs to involve themselves in areas of training, on-line medical control, and quality issues.9

The benefits of an emergency medicine residency program in Kansas should be apparent. Consider the usefulness of an academic center to train emergency medicine residents, provide continuing medical education to the emergency physicians of the state, give toxicologic guidance and leadership in the development of a certified regional poison control center to be utilized by

### **CME OPPORTUNITIES**

Civil War Medicine. August 4-6, 1995, Frederick, MD. Call 301-695-1864. (No CME credits.)

Childhood Injury Prevention and Control Conference. August 17-19, 1995, Kansas City, MO. Call KU Med. Center, 913-588-4488.

Advances in Internal Medicine. August 20-25, 1995, Monterey, CA. Call UC Davis School of Med., 916-734-5390.

Postgraduate Respiratory Care Symposium. August 28-29, 1995, Overland Park. Call KU Med. Center, 913-588-4488.

Current Concepts in Primary Care Cardiology. August 28-31, 1995, Lake Tahoe. Call UC Davis School of Med., 916-734-5390.

Surfaces in Biomaterials '95. Sept. 6-9, 1995, Minneapolis, MN. Call Surfaces in Biomaterials Foundation, 612-927-6707.

Conference on Human Functioning. Sept. 8-10, 1995, Wichita. Call Center for Improvement of Human Functioning, 316-682-3100 or 800-447-7276.

all Kansas physicians, serve as an academic source for political issues (e.g., trauma systems, prehospital care), and provide an arena for the education of primary care residents, medical students, and other physicians needing training in emergency medicine. A program affiliated with the University of Kansas School of Medicine could train six to eight emergency residents per year. Although some would choose to practice in Kansas, the residency program would not fill our state's needs for emergency physicians for some time, perhaps five to ten years. Initially, however, even a few emergency medicine-trained physicians, who would choose to function as directors of emergency departments in smaller communities (i.e., greater than 20,000 people), would have a profound and immediate impact on the quality of emergency care delivered in that region.

Is emergency medicine still a blank square in Kansas? The absence of an academic program suggests the affirmative. We deserve the best possible care for our citizens, and completing the house of medicine is imperative. More traditional medical schools and unrepresented states are beginning the development of new academic programs in emergency medicine. Kansas, too, should choose to participate.

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Med 1995;25:230-33.

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## Complications of Laparoscopic Cholecystectomy

MICHAEL S. WOODS, M.D., GILBERT S. SANTOSCOY, M.D., JOHN L. SHELLITO, M.D., AND ERIC A. SODER, M.D.,\* Wichita

aparoscopic cholecystectomy (LC) was rapidly incorporated into general surgical practice before prospective randomized trials could be performed to validate the technique as safe and effective as open cholecystectomy (OC). This phenomenon was driven by the public's desire for less "invasive" operative approaches, as well as by entrepreneurial interests. LC is now the operation of choice for symptomatic cholelithiasis and, despite these shortcomings, has proved to be an excellent procedure. The incidence of LC-related biliary complications, however, seems to exceed the number of biliary complications that occurred with OC.<sup>1</sup>

These alarming but well recognized problems are briefly reviewed herein, with recommendations concerning the prevention, intraoperative and postoperative detection of injuries, and subsequent treatment of LC-related biliary tract injuries. Information for this article was extracted from the literature and the experience of treating physicians referred to our clinic, where a cooperative, multi-specialty approach to these patients using radiology, gastroenterology and surgery has produced excellent results.

### Incidence of Injury and Classification

The incidence of iatrogenic biliary tract injury in OC is widely accepted to be between 0.1 and 0.25%,<sup>2,3</sup> while the incidence of injury during LC is variably reported from 0 to 7%,<sup>4-6</sup> and may be as high as 4% in LC for acute cholelithiasis.<sup>7</sup> This noteworthy increase prompts critical review of surgical techniques.

A multi-institutional study<sup>8</sup> examined 81 injuries and grouped them as cystic duct leaks, ductal leaks/strictures, and transection/excision injuries. Cystic duct leaks are commonly manifested in the postoperative period as a biloma, and leak-

age is often documented by endoscopic retrograde cholangiopancreatography (ERCP) or reoperation. This category was included, as it seems to occur more commonly in the era of LC and often requires active intervention. Ductal leaks and/or strictures are defined by radiographic means, either percutaneous transhepatic cholangiography (PTC) or ERCP. Non-transecting incisions in bile ducts are usually recognized by intraoperative cholangiography (IOC), with no proximal flow of dye and/or dye extravasation, and were placed in this category. Early strictures are commonly due to clips, while late strictures can occur secondary to ischemia, cautery injury to the bile duct, or periductal inflammation from a bile leak. Transections are defined as a complete transection of the bile duct, and excisions as removal of a section of the bile duct. These were placed in the same category, as both are effectively a transecting injury, and treatment is often similar. The term conversion means that the LC was terminated, and the procedure completed as an open case during the same anesthesia.

### **Injury Prevention**

Careful identification of anatomy is the most important variable in the prevention of LC-related biliary tract injury. There are three factors involved in injury prevention: proper dissection technique, detection through routine use of intraoperative cholangiography (IOC), and a low threshold for conversion.

Dissection technique. Dissection should be done with the assistance of a 30° laparoscope. This allows one to look down upon the region of dissection instead of "head-on" with the 0° scope, giving better visualization of the region of the common bile duct. Retraction of the fundus should be cephalad, with the infundibulum pulled inferiorly and laterally to "splay out" the triangle of Calot. Dissection should begin high on the gallbladder and progress toward the triangle of Calot. This allows one to follow the gallbladder

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wall to the infundibulum and cystic duct, where circumferential mobilization of the cystic duct can be accomplished. All peritoneal folds should be taken down — so-called pedunculation of the gallbladder. Electrocautery should not be used unless the tip of the cautery device can be visualized (e.g., through the peritoneum). No structure should be burned, divided or clipped until the anatomy is defined. We recommend routine IOC, with visualization of the entire ductal system. IOC findings should be documented. The cystic duct is then clipped and divided after elucidating the anatomy, and the gallbladder dissected from the liver bed.

Detection: Intraoperative

Intraoperative detection of an injury is critical, as morbidity and mortality of biliary injuries are related to the length of time from injury to its detection. The best method of intraoperative detection is the use of IOC, which has been demonstrated to prevent injuries and extension of minor injuries into complete transections; and to detect injuries intraoperatively, leading to conversion. It is associated with fewer days to injury detection (due to conversion), decreases the severity of injury, and is associated with fewer operations to correct injuries after LC.8 Some suggest that inability to obtain an IOC is an indication for conversion. IOC will not prevent or detect all injuries, so careful dissection remains tantamount. Obviously, if the injury occurs after the IOC it will not be identified by IOC. Additionally, cystic duct leaks may not be detected by IOC, as these injuries may be related to traction on the cystic duct, resulting in a small tear at the cystic duct and common hepatic duct junction. This leak may be occluded during IOC by the clip or cholangiogram clamp, thereby going unrecognized. If there are questions about the anatomy or dissection, the case should be converted.

**Detection: Postoperative** 

Postoperative evaluation after LC should be considered in any patient not having a totally uneventful postoperative course. Nausea, vomiting, abdominal distention, fevers, anorexia or pain may indicate a problem. Patients with injuries often have some identifiable problem in the first 24 hours. Four modalities are of use in detecting injuries postoperatively: cholescintigraphy, ERCP, PTC and CT scans. Cholescintigraphy can identify a bile leak, but will not always identify where it comes from anatomically. ERCP can

identify a biliary leak or stricture and can serve a therapeutic role as well (discussed later). PTC is useful mainly in cases of late stricture when the intrahepatic biliary ducts are dilated, can be used to identify the level of stricture, and can also serve a therapeutic function. CT scan can identify perihepatic fluid collections and biliary dilation, but is limited in its ability to identify the actual lesion.

### Treatment

Conversion to an open case is the goal after a biliary injury is identified, since morbidity is less the sooner it is treated. Extrahepatic bile collections should be drained percutaneously (or by laparotomy if the patient requires open surgery) to prevent an infected biloma, bile peritonitis or ascites. This can be done in conjunction with any of the following treatments, which are discussed

by individual injury groups.

Cystic Duct Leaks/Major Leaks. Major leaks may respond to transpapillary stenting, but can require laparotomy with repair over a t-tube. If the leak is not repaired, bile ascites, peritonitis or an infected biloma may result. The ensuing bileinduced periductal inflammation can result in a stricture from compression of the duct. In this case, an endoscopic stent can be placed which may allow the inflammation to resolve. There is some evidence that these patients' strictures will resolve as the inflammation resolves. Early operation in these cases may be fraught with potential complications, and may be unnecessary as long as adequate drainage can be obtained endoscopically. Other strictures may respond to balloon dilation and stents. Postoperative balloon dilation and stenting has equal success to surgical repair (83%) in selected patients and requires repeat treatment every four months over one year. Percutaneous radiologic methods are successful, too, but are more uncomfortable for the patient. Occasionally, combined radiologic and endoscopic methods are required for successful stent placement across tight strictures. If non-surgical methods for strictures fail, operation is required. Most strictures will require a biliary-enteric anastomosis, usually a hepaticojejunostomy (HJ), which also has good long-term results (83%).

Transection/Excision Injuries. Primary repair of complete ductal transections can be done over a t-tube if discovered intraoperatively or in the early postoperative period before inflammation becomes severe. For surgeons uncomfortable in the techniques of biliary-enteric anastomoses, this is a good option. It may eventually be the preferred

initial repair, but long-term follow-up of patients having primary repairs is not available. If a stricture occurs in the primary repair, endoscopic salvage with balloon dilation and stenting may avoid reoperation and HJ, although HJ will be required in many of these patients. Late discovery of a transection/excision injury usually requires a HJ, as inflammation from bile extravasation often prevents successful primary anastomosis. Long-term success (i.e., good result) with HJ is high (83%).<sup>10</sup>

### Conclusions

Injury prevention can be optimized by careful dissection and routine use of an IOC. IOC will prevent some injuries and, importantly, will detect most injuries occurring during early dissection. Early detection is critical to minimize morbidity and mortality and to enhance the chance of successful treatment of biliary injuries. Postoperative fever, chills, nausea, pain, vomiting, distention or anorexia should raise the suspicion of an injury, especially if it occurs in the first 24 hours. Not all injuries require operation, as all simple cystic duct leaks and some ductal bile leaks will resolve with endoscopic stenting. Many bile duct strictures can be treated with balloon dilation and stenting initially. If this fails, biliary-enteric anastomosis has an equally good long-term outcome, and can be used to salvage the patient. Transection/excision injuries may be successfully repaired by end-to-end anastomosis over a t-tube if discovered early. Endoscopic salvage is possible in some patients who develop late strictures. HJ can be used to salvage failed primary repairs or as the initial treatment method for transection/ excision injuries. A cooperative multispecialty approach using radiology, gastroenterology and surgery optimizes results.

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### SALMONELLA

(Continued from page 17.)

Paola were identical, providing additional evidence that a common source of infection was responsible for this outbreak.

Infection with Salmonella may occur by consuming raw or undercooked eggs, meats, poultry, and unpasteurized milk. Domestic animals may also transmit Salmonella to humans. Salmonella is transmitted between individuals by the fecaloral route. Physicians treating patients suspected of a Salmonella infection are encouraged to submit stool specimens for culture. Positive specimens should be sent to KDHE for serotyping. Salmonellosis is normally a self-limited disease. Antibiotic treatment is usually not indicated for patients with uncomplicated gastroenteritis caused by Salmonella because treatment does not decrease the duration of the illness and can prolong the duration of excretion of the organism.

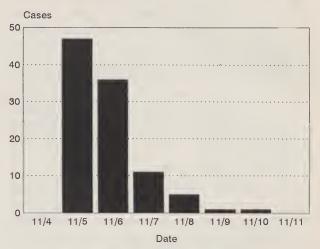
## Salmonella Outbreak at a High School in Kansas, 1994

n November 7, 1994, the Kansas Department of Health and Environment (KDHE) was informed by a county health department that a number of children at the local high school were suffering from diarrhea, nausea, vomiting and fever. One child had been hospitalized for dehydration. Students started becoming sick on Saturday, November 5, at a football game. An outbreak investigation by KDHE was begun on November 10.

Questionnaires were administered to all individuals in school and mailed to students who were sick at home. A case was defined as any student or staff member of the high school who had at least three loose or watery stools within a 24hour period on or after November 5. Stool specimens were sent to KDHE for culturing. Positive stool specimens tested at private laboratories were referred to KDHE for serotyping. A subset of the positive specimens were sent from KDHE to the Centers for Disease Control and Prevention for phage typing. A second questionnaire, listing the foods served for lunch by the school on November 3-4, was administered to those present at school and a random sample of controls taken from individuals who were not sick.

There were 104 cases at the school, representing 17% of the students and staff. The outbreak lasted from November 5 through November 10, with the majority of the cases on November 5-6. All cases reported diarrhea, 95 (91%) had stomach cramps, 91 (88%) had headache, 78 (75%) had fever, 69 (66%) had nausea, 38 (37%) had vomiting, and 16 (15%) had bloody stool. Thirty-one (30%) of these individuals saw a physician, and 4 (4%) were hospitalized. Duration of illness ranged from one to nine days, with a median duration of four days. The incubation time, clinical presentation, and duration of illness were compatible with infection with Salmonella. Sixteen (15%) of the cases were culture-confirmed as Salmonella enteritidis. All isolates tested were phage type eight.

Reported by: J. A. M. Calder, D.V.M., M.P.H., Ph.D., Epidemiology Section, Bureau of Disease Control, Kansas Department of Health and Environment.



Date of onset of illness during a Salmonella outbreak at a high school in Kansas, November, 1994.

In 93% of the cases, individuals reported eating the school lunch on Friday, compared to 69% of controls. There was a statistically significant association between illness and eating the school lunch on Friday (p=0.0004). There was a strong association between consumption of beef and noodles served on Friday and illness (odds ratio=11.5, 95% confidence limits 5.0, 27.0).

The cafeteria at the high school prepared the meals for all schools in the district. The same meals were served at each school. No illnesses were reported at any of the other schools. This suggests that contamination may have occurred at the high school after preparation. No serious violations of food handling techniques or food safety codes were found in the cafeteria. All of the food items submitted for testing and stool samples obtained from the 20 food handlers were negative for *S. enteritidis*.

Salmonellosis is the most commonly reported foodborne illness. There were 408 cases of *Salmonella* reported in Kansas during 1994. *S. enteritidis* is the second-most-common serotype for *Salmonella* in Kansas, accounting for approximately 14% of all *Salmonella* isolates tested. The results of the phage typing indicated that the *S. enteritidis* isolates obtained from different patients in

(Continued on page 16.)

### Physical Activity in Kansas, 1993

here is substantial evidence of the health benefits of physical activity. Regular physical activity can help to reduce the risk of cardiovascular disease, which in Kansas accounted for 33% of deaths in 1993. It can also be beneficial in preventing or controlling hypertension, diabetes mellitus, osteoporosis, obesity and some mental health problems. Even light activity, below the level recommended for cardiorespiratory fitness, has been shown to decrease the risk of coronary heart disease. 3

The Behavioral Risk Factor Surveillance System (BRFSS) survey, a random-digit-dialed telephone survey, is conducted by the Kansas Department of Health and Environment annually. Information about leisure-time physical activity was collected from 1,440 Kansans in 1993.

Figure 1 summarizes how Kansas stands in relation to the national physical activity objectives for the year 2000, as outlined by the U.S. Department of Health and Human Services. Based on the survey results, an estimated 62% of Kansans engaged in some leisure-time physical activity in the month prior to being surveyed. This is more than 20 percentage points below the national goal of 85% for the year 2000.2 This estimate did not differ by sex, but did decrease with age, with 78% of those from 18 to 24 years of age and 50% of those 65 or older reporting some leisure-time physical activity. Only 39% of those with less than a high-school diploma reported any leisure-time physical activity, compared to 72% of college graduates.

Eighteen percent of Kansans engaged in regular leisure-time physical activities, defined as at least five times a week for at least 30 minutes a session, prior to being surveyed. The year 2000 objective is to increase this to at least 30%.<sup>2</sup> Men and women were equally likely to report regular physical activity, while those aged 18 to 24 years were most likely to report regular physical activity (26%). The percentage of persons reporting regular physical activity increased with education level

from 9% of those without a high school diploma to 23% of those with a college degree.

Only 7% of Kansans exercise three or more times a week for 20 minutes or more at sufficient intensity to develop and maintain cardiorespiratory fitness. The percentage of Kansans participating in regular and vigorous leisure-time physical activity needs to be almost tripled to reach the year 2000 objective of 20%.<sup>2</sup>

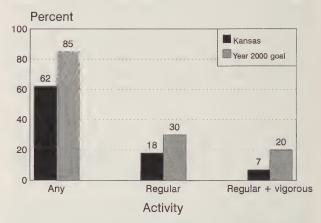


Figure 1. Leisure-time physical activity: Kansas, 1993.

Figure 2 illustrates how reported physical activity varied by the month in which the survey was completed. While the percentage of Kansans reporting no leisure-time physical activity remained relatively stable from month to month, the percentage of Kansans reporting regular leisure-time physical activity appeared to follow a seasonal trend. Kansans were least likely to report regular activity during the winter months, with only 9% reporting regular activity in February, compared to 26% in July. However, even in July, the national goal of 30% was not attained.

The promotion of physical activity needs to continue in order to reduce the risk of some of the most common and serious health problems in Kansas, and to improve the overall quality of life of the state's residents. While all groups should be encouraged to engage in some sort of regular leisure-time physical activity, those of lower socioeconomic status and the elderly may have the most to gain. These two groups report less activity, but shoulder a disproportionate

Reported by L. Wilberschied, M.S., Epidemiology Section, Bureau of Disease Control, Kansas Department of Health and Environment; and K. Pippert, Bureau of Chronic Disease and Health Promotion, Kansas Department of Health and Environment.

(Continued on page 39.)

## The Value of Counseling Patients about Exercise

BRAD T. STEINLE, M.S.Ed.,\* Kansas City

Regular physical activity has been promoted as a necessary and important component of health promotion and disease prevention, and counseling in this area should be an essential part of preventive services offered by health care providers. Recently the American Heart Association declared that low physical fitness is as important a risk factor for coronary heart disease as smoking, hypercholesterolemia and hypertension. For this review, we will present evidence of the health benefits derived from regular physical activity and physical fitness, and give some guidelines to help counsel patients about exercise.

First it is important to differentiate among physical fitness, physical activity and exercise. *Physical fitness* is a quantifiable measure of one's ability to perform physical work. This is usually measured clinically through the use of graded exercise testing. *Physical activity* is any body movement that results in an energy expenditure above resting metabolic level. *Exercise* is a subcategory of physical activity that is a planned, repetitive activity that results in improved fitness. Improved physical fitness is the result of an increased ability to use oxygen to derive energy for physical work.

High physical activity and high physical fitness levels appear to have beneficial effects in reducing mortality from all causes of death and particularly coronary heart disease. Paffenbarger has followed over 10,000 Harvard alumni males since the early 1960s and has found that those who maintained moderately vigorous physical activity have lower rates of death from all causes.<sup>3</sup> Blair found lower mortality rates in those patients with higher physical fitness levels in an eight-year follow-up study of 10,224 men and 3,120 women.<sup>4</sup> The decreased mortality rates were primarily due to lowered rates of cardiovascular diseases and cancer. Sandvik found that physical fitness appears to be a graded, independent long-term predictor of

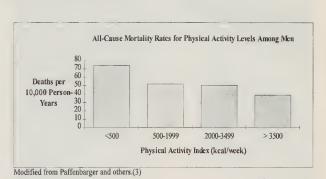


Figure 1.

mortality from cardiovascular causes in healthy, middle-aged men.<sup>5</sup>

It is likely that regular exercise offers protection against coronary heart disease by favorably modifying serum lipoprotein concentrations and through weight reduction. Observational studies have shown favorable associations between high-density lipoprotein (HDL) cholesterol and regular exercise. Weight loss, primarily through the loss of body fat, either by dieting or exercise, produces comparable and favorable changes in serum lipoprotein levels.

In patients with documented coronary heart

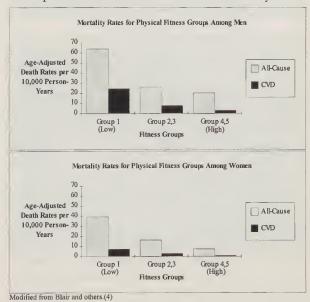


Figure 2.

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disease, regular exercise clearly improves functional work capacity and leads to lowered heart rate and systolic blood pressure at submaximal exertion levels. The product of heart rate and systolic blood pressure (an index of myocardial oxygen consumption) is lowered, thus reducing myocardial oxygen demands.

Healthy individuals can exercise safely if they are counseled appropriately. Persons with major risk factors for coronary heart disease or documented disease should be evaluated by a physician prior to initiating an exercise program. When counseling patients about exercise, it is important

to give specific recommendations.

• First, identify an activity that is both enjoyable and convenient for the patient. Walking, running, swimming, stair-climbing, cycling, cross-country skiing and roller-blading are effective types of exercise. Brisk walking is often the most convenient activity, with little cost other than a good pair of walking shoes and requiring only a safe walking area.<sup>2</sup>

- Be specific about the quantity of exercise needed for health benefits. The American College of Sports Medicine recommends exercise three to four days each week for 30 minutes per session. To judge exercise intensity, patients can be taught to monitor radial or carotid pulse rates. For healthy adults, an exercise heart rate range should be determined by calculating 50 to 80% of predicted maximal heart rate (MHR = 220 -age). Most people can exercise comfortably and safely within this range. Alternatively, patients can be instructed to exercise vigorously until they are unable to speak more than six to eight words without taking a breath between words.
- Patients should start out gradually. Obese and extremely sedentary patients should begin with exercise periods of only five to ten minutes, and then add two to three minutes to their workout each week.
- Other forms of physical activity, such as gardening, cutting wood or lawn mowing can substitute for an exercise workout.
- Stretching for five minutes before and after a workout will help prevent soreness and improve flexibility.
- During office visits, inquire about patients' exercise programs and reinforce their exercise. Finally, warn patients about abnormal responses to exercise. Excessive shortness of breath, extreme fatigue, muscle soreness and nausea are signs of overexertion. Patients who experience chest pain during exercise should immediately stop their ex-

### TABLE 1. RECOMMENDATIONS FOR EXERCISE

- 1. Exercise on 3 to 4 days per week.
- 2. Exercise for 30 to 40 minutes per session.
- 3. Maintain exercise heart rate range between 50 and 80% of maximal heart rate.
- 4. Build endurance gradually, especially in obese and sedentary patients.
- 5. Be sure to warm up and cool down for 5 to 10 minutes.
- 6. Choose an exercise that is endurance-oriented and appropriate for the patient; e.g., walking, swimming, cycling, etc.

ercise and contact their physician or emergency medical system. While adverse effects from exercise, such as cardiac arrests, do occur, these events are exceedingly rare. The overwhelming majority of patients can exercise without problems if they are given appropriate recommendations. The cost-benefit ratio strongly favors using exercise as part of a routine set of recommendations for preventive practice — when proper and specific guidelines are given by the physician.

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### An Unusual Case of Hydronephrosis

DAVID BRAKE, M.D.,\* Wichita

59-year-old female reported right flank pain and hematuria. The patient had a history of heart disease, had a prosthetic mitral valve, and was taking Coumadin. Her prothrombin time (PT) was 44 seconds (normal: 11.5 to 13.0).

**Imaging Findings** 

Intravenous pyelogram (IVP) showed a slight delay in excretion on the right, with mild hydronephrosis involving primarily the upper pole collecting system. There was no dilatation of the right ureter (figure 1), nor was there an intraluminal filling defect, such as a ureteral calculus, to account for the upper collecting system hydronephrosis. The left renal collecting system showed no abnormality. The IVP finding suggested a mass in the caudal aspect of the right renal sinus. Abdominal CT showed a pathologic process in the renal sinus, surrounding the right upper collecting system (figure 2). The mass extended around the proximal right ureter (figure 3). A subsequent retrograde pyelogram did not show an intraluminal mass within the right renal pelvis, nor evidence of invasion by an extrinsic mass of the right upper collecting system.

#### Discussion

The most common cause of flank pain and hematuria is nephroureterolithiasis. This patient did not have the imaging findings of a renal calculus. The obstruction in this patient was due to a non-invasive process surrounding the renal pelvis and proximal ureter. The PT of 44 seconds and the history, combined with images which did not demonstrate an invasive neoplastic process, led to a diagnosis of renal sinus hemorrhage. The patient was treated conservatively.







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# Craniopharyngioma Presenting as Korsakoff Psychosis

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53-year-old white male sought treatment for the chief complaint of worsening deficits of short-term and recent memory, increasing confabulation, and confusion. The patient also gave a one-year history of progressive fatigue, decreased sexual function, polydipsia and polyuria. He occasionally used alcohol and was on a nonsteroidal anti-inflammatory medication for degenerative arthritis at the time of admission.

Physical examination revealed a mildly obese white male who was oriented only to person but not to time or space and had significant defects in recent and short-term memory. His attention span was very short and he was able to recall only one digit of a seven-digit retention test. He also exhibited an inferior bitemporal quadrantanopsia.

His laboratory findings were significant for serum cortisol level of 2.1 mcg/dl compatible with hypopituitarism, and T4 of 5.1 mcg/dl (borderline). Testosterone level was less than 10 mcg/dl and serum prolactin level 27.8 ng/ml.

Magnetic resonance imaging (MRI) showed a large (4 cm x 4.5 cm x 4.2 cm) inhomogeneous enhancing suprasellar mass extending into the hypothalamus and to the foramina of Monro. There was associated moderate hydrocephalus (figure 1).

### Operation

A right frontotemporal craniotomy was performed. Upon opening the lamina terminalis a large bulbous mass with a solid and a cystic component was found posterior to the chiasm. The cyst fluid was green and oily, typical for craniopharyngioma. The tumor was resected using microsurgery techniques. A gross total removal was

obtained with no residual tumor seen beneath the optic chiasm or tracts.

### Pathology

Permanent sections of the specimen showed interface between the advancing margins of a craniopharyngioma and the overlying brain. The tumor processes were composed of squamous and peripheral basaloid epithelial cells. There were no histologic signs of malignancy. The neighboring brain tissue showed absence of neurons, gliosis by pilocytic astrocytes and mild lymphocytic infiltration (figure 2).

Following surgery the patient showed significant improvement in recent and short-term memory. His postoperative course was complicated only by diabetes insipidus, which was treated with DDAVP (desmopressin acetate). His visual field



Figure 1. Coronal view of magnetic resonance imaging shows a 4 cm x 2 cm inhomogeneous enhancing suprasellar mass extending into the hypothalamus and to the foramina of Monro. There is an associated moderate hydrocephalus.

The authors wish to thank Mrs. Anita Graham for the careful typing of the manuscript.

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Figure 2. Interface between advancing margin of craniopharyngioma and overlying brain. The tumor processes are composed of squamous and peripheral basaloid epithelial cells. The brain tissue shows absence of neurons, gliosis by pilocytic astrocytes and mild lymphocytic infiltration. Hematoxylin eosin X140.

deficits subsequently resolved as observed on an outpatient basis.

### Comment

The Korsakoff syndrome (amnesic syndrome) is usually associated with Wernicke disease and as such is most often seen in alcoholic and malnourished patients who suffer from thiamine deficiency. Adams and Victor¹ even went so far as to suggest that "Korsakoff psychosis is the psychic manifestation of Wernicke disease." These authors nevertheless pointed out that Korsakoff psychosis may have its basis in various lesions of the diencephalon.

It has been indeed well documented that memory disturbances (amnesic syndrome) are associated with lesions of the dorsomedial thalamus, mammillary bodies, and terminal aspect of the fornices.<sup>2,3</sup> It has also been shown that the midline diencephalic structures and the hippocampus are important areas involved in learning and memory.<sup>4</sup> Memory deficits can also result from tumors involving the floor and walls of the third ventricle,<sup>5,6,7</sup> including cases of pituitary adenomas.<sup>8</sup> Even without formal psychological testing, all these authors were able to document some improvement in recent and remote memory following resection of the mass.

In 1976 Ignelzi<sup>9</sup> reported a case of anterograde and retrograde amnesia associated with a large cystic craniopharyngioma involving the floor of the third ventricle. Following percutaneous aspiration marked improvement of both types of memory deficits was observed. General features of dementia without specific memory loss in patients with craniopharyngioma appear to have a higher incidence in the elderly. 10 The Korsakoff syndrome seems to be a much rarer presenting symptom in craniopharyngiomas of adults. Craniopharyngiomas are epithelial neoplasms believed to develop from remnants of Rathke's pouch. Since the latter evolves from the roof of the primitive stomodeum (oral cavity), rather than from the pharynx, the name is actually a misnomer, but as Russell and Rubinstein<sup>11</sup> pointed out, this objection is academic, since the name is widely used and likely to persist. Since Rathke's pouch grows from below to reach the future sella turcica, it is also difficult to explain why craniopharyngiomas typically develop above the sella. It is perhaps customary to think of this neoplasm as one involving young people and indeed more than half are observed in childhood and adolescence. They may even be found in the newborn. But they also occur in adults up to the seventh decade and Russell and Rubinstein actually observed a second peak of incidence in the fourth and fifth decades.

### Conclusion

We conclude that patients presenting with Korsakoff psychosis or a variant of that syndrome, should have a vigilant workup to include a thorough history, physical examination and an MRI or CT scan of the head. Such an approach can result in the early detection of craniopharyngiomas. It may also show that the association of this lesion with Korsakoff psychosis is not an uncommon one.

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(Continued on page 34.)

### The Impact of Age-Related Visual Impairment on Functional Independence in the Elderly

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75-year-old man sought medical care at our clinic with the chief complaint of frequent falls. He denied loss of consciousness, dizziness or problems with gait. The falls consistently occurred while stepping up onto steps and curbs. He often seemed to catch his foot but had sustained no injuries. His past medical history was unremarkable except for hypertension, which was controlled with hydrochlorothiazide. He had worn glasses since childhood. His last prescription change was five years prior. Further questioning revealed significant problems with reading, watching television, cooking, dressing and some aspects of his personal care. He had come to rely greatly on his wife over the past year for many of his activities. He also had become much less active.

On physical examination, his blood pressure was 146/78 in the lying position and 140/76when he stood. His blood pressure was essentially the same in the left arm. His general medical examination revealed an occasional skipped heart beat and a completely normal neurological examination. Gait and hearing evaluations were normal. Electrocardiogram revealed rare premature atrial contractions. Laboratory studies were unremarkable, including a normal two-hour-postprandial blood glucose and sedimentation rate. A thorough ophthalmologic evaluation detected immature anterior cortical cataracts and nonexudative (dry) macular degeneration in both eyes. There was significant central vision loss in both eyes. His peripheral visual fields and intraocular pressure were normal bilaterally. Despite careful lens adjustment, the ophthalmologist could not improve this patient's visual acuity to better than 20/180 for the left eye and 20/80 for the right eye.

### Discussion

The frequent falls and declining function experienced by this gentleman clearly demonstrate the profound health consequences of impaired vision for the elderly. Visual impairment is a common problem; more than 90% of older persons require eyeglasses. Greater than 20% of those over the age of 85 report that, even with the aid of glasses, they have a great deal of difficulty seeing. Of the 500,000 individuals who are legally blind in this country, 50% are older than 65 years of age. The prevalence of blindness rises sharply with age to 3,000 of every 100,000 persons 85 years or older. Legal blindness is defined as corrected vision in the better eye of 20/200 or poorer, or vision that is restricted to less than 20 in its widest diameter. For the elderly, the leading causes of blindness are senile cataracts, macular degeneration, glaucoma and diabetic retinopathy. New cases of blindness in the aged are primarily due to macular degeneration. Visually impaired persons are those who have some trouble seeing with one or both eyes, even when wearing corrective lenses, but they do not fit the definition of legal blindness. Of the more than 11 million persons in this country who are visually impaired, greater than 40% are older than 65 years of age. Cataracts and glaucoma are the leading causes of new cases of visual impairment in the elderly.

Macular degeneration will be the primary pathologic visual process discussed in this review. The other three major eye disorders in the elderly (glaucoma, senile cataracts and diabetic retinopathy) will be reviewed in later case discussions. The prevalence of age-related macular degeneration is 20% for persons living in the community who are 75 years or older. Although the exact pathogenesis of this disorder is not known, it seems to be associated with degenerative changes in the reti-

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nal pigmented epithelium (RPE). Primary degeneration of the RPE or a metabolic disturbance between the RPE and overlying photoreceptor cells may be the first event in the pathogenesis of macular degeneration. The result is hyaline material accumulation within the RPE, loss of photoreceptors and, in more severe forms, neovascularization with exudate formation in the affected areas of the retina. Since this process occurs in the macule, the area of the retina responsible for high-resolution visual acuity, even a small lesion can lead to a severe loss of vision.

Clinically, this disorder can be divided into nonexudative (dry) and exudative (wet) macular degeneration. Fortunately, 80 to 90% of macular degeneration is nonexudative, which is associated with a gradual loss of central vision. Only 10% of these patients develop impaired vision to the extent of legal blindness. Thus, the patient in this case had more severe degeneration than is typical. Exudative macular degeneration is much more likely to be associated with severe visual loss. Choroidal neovascularization is the primary destructive mechanism in this form of macular degeneration.

#### Treatment

Older persons with macular degeneration often have associated cataracts. In patients with both disorders, the benefits of cataract surgery depend on the severity of the macular degeneration. Surgery is not beneficial if the macular degeneration impairs vision as much or more than the cataracts. In this case, the visual loss was largely due to macular degeneration, so surgery for the cataracts was not indicated. This individual has significantly more impaired vision in one eye than the other. The resulting loss of stereoscopic vision and depth perception places him at much greater risk for a fall.

Though no specific treatment for nonexudative macular degeneration is available, a recent double-blinded, randomized, controlled trial of oral zinc did suggest that this nutrient might be effective in slowing the progression of visual loss. Otherwise, medical management of this form of macular degeneration relies primarily on monitoring for choroidal neovascularization, retinal detachments, and greater visual loss. Several clinical symptoms that indicate the development of these pathologic changes include sudden or recent central visual loss, blurred vision, distortion, or a new scotoma (blind spot). Patients with nonexudative macular degeneration can also be offered low-

vision rehabilitation, as described below.

Argon laser photocoagulation can be beneficial for patients with exudative macular degeneration. A recent study showed that one year after laser therapy, visual acuity was preserved in approximately 50% of treated patients. In comparison, severe visual loss occurred in 43% of the untreated patients and 21% of the treated patients. However, the prevalence of severe visual loss increased to nearly half of the treated patients within three years, predominantly due to neovascularizations growing toward the center of the fovea. Thus, photocoagulation is best regarded as postponing, rather than preventing, severe visual loss in patients with choroidal neovascularization.

Adequate lighting is one of the keys to improving vision in the elderly with impaired sight, but precautions must be taken to avoid glare. Filters, visors and sun glasses that remove shorter wavelengths may be helpful. Reading glasses with convex lenses that add from 4 to 50 diopters of lens power are the most commonly prescribed lowvision aid for the elderly. Above 10 diopters, the preservation of binocular vision is usually very difficult. The visual goal then becomes monocular correction for the better eye. Hand-held and stand magnifiers can be prescribed, but provide benefits only for simple tasks conducted at a distance of about an arm's length. Video and computer magnifiers can be very helpful, but are limited in use by their high cost and lack of portability. In addition to magnification, referral to an occupational therapist can be of great benefit. A therapist can help adapt tasks that require vision and can provide aids such as largeprint reading material, large-button telephones, felt-tip pens for writing, talking watches and clocks, and raised-dot markings for oven dials.

Despite limitations in biomedical interventions for this gentleman, his function improved after being referred to an occupational therapist with special expertise in low-vision rehabilitation. He regained independence in performing his own personal care by relying on touch, use of dressing and personal hygiene aids, and a magnification lens for his right eye. The monocular correction in particular enabled him to resume reading. Several environmental modifications in the patient's home provided more independence and greatly reduced the incidence of falls. First, yellow tape was applied to the top edge of each step to provide much greater contrast on his stairs. Pathways were also generally cleared of environmental hazards.

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### Summary

Low vision is an extremely common problem in the elderly, which may have devastating consequences for functional independence and health status. It ranks only behind arthritis and heart disease as the etiology for impaired function in those over the age of 70. Macular degeneration is a leading cause of blindness and poor vision in the elderly. The central vision loss of this disorder can sometimes be postponed through laser therapy. Otherwise, the low visual state is best addressed with vision-enhancing devices, non-optical adaptive equipment, and patient education available through most occupational therapists. Referral to a low-vision rehabilitation program is sometimes needed for more comprehensive evaluation and intervention. Individual adaptation and supportive services often result in a significant improvement in function and quality of life for those elders with low vision.

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### Geriatrics Journal Club

DONALD L. COURTNEY, M.D.,\* Kansas City

Pressure Sores and Pressure-reducing Mattresses: Controlled Clinical Trial. Hofman A, Geelkerken RH, Wille J, Hamming JJ, Hermans J, Breslau PJ. *Lancet* 1994;343:568-71.

This is a randomized, controlled study of a pressure-reducing mattress (DeCube, made by Comfortex in the United States), compared with a standard hospital mattress, in preventing pressure sores in patients at high risk. The study was performed on an orthopedic surgery service in the Netherlands. Eligible patients had been admitted for a femoral neck fracture, did not have a pressure ulcer on admission, and had a pressure sore risk score predicting a 70% likelihood of developing a sore within two weeks. Both groups were treated according to a standard protocol. Neither staff caring for the patient nor the study investigators were blinded to the type of bed.

Forty-four patients were enrolled, 23 on the standard mattress and 21 on the DeCube. The average age was 84. Six patients were men, and 38 were women. There were no significant differences between groups in fracture site, surgical treatment, pressure sore risk index, hemoglobin or nutritional parameters.

#### Results

The trial was stopped early, due to significant differences between groups at an interim analysis. The primary end-point was the development of Stage 2, 3 or 4 pressure ulcers. At one week after surgery, 5 of 20 patients (25%) on the DeCube had pressure ulcers, and 14 of 22 patients (64%) on the standard mattress had pressure ulcers. At two weeks, 4 of 17 patients on the DeCube (24%) and 13 of 19 on the standard mattress (68%) had significant pressure ulcers. Differences in pressure ulcer occurrence between the two groups was statistically significant at both times.

### Comments

This study does not involve the very expensive

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air-fluidized beds (Clinitron) or low-air-loss beds (Ken-Air and others), which are probably only appropriate for treating existing pressure ulcers that have not responded to less expensive measures. The DeCube uses removable foam blocks under a special mattress cover to reduce the pressure under bony prominences. There are several mattresses on the U.S. market now that claim significant pressure reduction under bony prominences. These mattresses also appear to reduce sheer forces when turning patients. What has been lacking is objective data on the ability of the newer mattresses to reduce the incidence of new pressure sores, or to speed healing of existing sores. My own institution is undergoing a simple comparison of three of these new pressure-reducing mattresses. The DeCube is one, and we share the authors' concern about the difficulty in setting up the bed for each patient. Its use is probably best recommended to orthopedic and neurology services, and perhaps the intensive care unit, where the likelihood of new pressure sores is high, and staff can be trained to fine-tune the beds.

### How to Change Your Practice

For patients who are admitted to the hospital with very impaired mobility (e.g., new leg fractures, strokes, delirium), immediate placement on a pressure-reducing mattress should reduce the risk of new ulcers. You will need to find out from your nursing staff what brand they feel most comfortable in setting up for their patients.

If an area in your hospital is having problems with pressure ulcers, recommend replacing all the mattresses in that area with pressure-reducing mattresses. Pressure-reducing mattresses cost about \$250 to \$400 each. With the cost of a single pressure sore estimated at \$10,000 to \$30,000, the mattresses could quickly pay for themselves.

### Hypertension

I also recommend a recent review article on hypertension in the elderly: National High Blood Pressure Education Program Working Group Report on Hypertension in the Elderly. *Hypertension* 1994;23:275-85. The recommendations are practical and up-to-date.

## Neurology in Frontier America before Mitchell: Fort Scott Records

SATY SATYA-MURTI, M.D.,\* Parsons

"Historical knowledge . . . prevents us (from) committing the ingenuous mistakes of other times. But if . . . you have lost the memory of the past, and do not profit by experience, then everything turns to disadvantage. The most 'cultured' people to-day are suffering from incredible ignorance of history."

José Ortega y Gasset, 1930

### Abstract

The American Civil War and Weir Mitchell were instrumental in the birth of American clinical neurology. Before this period, medical practice in frontier America was undisciplined and inchoate. In these times, Fort Scott, a federal military outpost in what was then Indian territory (now Kansas), maintained an active hospital. At this fort, meticulously kept records between the years of 1842 and 1853 have been preserved. These records reveal that military surgeons of that day were aware of several neurological illnesses, such as post-traumatic epilepsy, cephalalgia, meningitis and delirium tremens. There are autopsy descriptions of cerebral hemorrhage and meningitis. The fort surgeons used thermometry routinely, at least before autopsy, even though clinical thermometer usage was very uncommon until the late 1860s. The Fort Scott records provide insight into the prevailing clinical beliefs of the day. They also reveal that some knowledge of neurology was extant before Mitchell, even in frontier America.

The American Civil War (1861–65) provided abundant material for the study of gunshot wounds to the brain and peripheral nerves. Weir

Mitchell, William Hammond, George Morehouse and William Keen took an abiding interest in the study of these cases.† Their toils resulted in the recognition of causalgia and other consequences of nerve injuries. Thus, credit for the birth of American clinical neurology belongs to these late-19th-century pioneers.

In the years preceding the Civil War, medicine was hardly a scientific discipline. Fort Scott was founded in the 1840s, when the pre-microbial era still prevailed. Miasma, rather than microbes, took the blame for infections. Surgery was practiced on unanesthetized or under-anesthetized patients. Ungloved hands performed surgery, if and when needed.<sup>1,2</sup> Antisepsis was practiced more in breach than in observance. Such 18thcentury procedures as blistering, bleeding, leeching and cupping carried high therapeutic merits.<sup>3</sup> Measuring body temperature was considered a redundant and worthless exercise. X-rays were not even a pale glint on the horizon. The accompanying time line shows some events of general and medical interest that took place in the years before the Civil War. During these "darkest . . . bleak" years, only those ". . . too stupid for the bar, [or] too immoral for the Pulpit chose to study medicine."1 Kansas was yet to attain statehood. In the frontier territories, not all early physicians had "culture and education."4 Many practiced under hazardous circumstances. Under such conditions, systematic documentation and study of any disease would have been extraordinary. Thus, it was surprising to find well

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†These Civil War-era physicians published extensively on the consequences of gunshot wounds and nerve trauma, thus establishing themselves as pioneers of American neurology. It was Mitchell who coined the term causalgia.

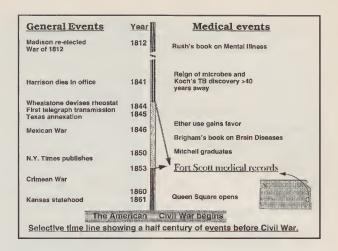
kept medical records from a federal outpost which was established 150 years ago in what was then known simply as the frontier and later as Kansas Territory. In this paper I describe some of my findings, relevant to neurology, from a study of these records.

### The Fort

Fort Scott was established in 1842 with the intention of keeping peace among the intermingling Indian tribes and white squatters. The fort was part of a permanent Indian frontier marking the boundary of Euro-American settlement. It stretched south from Fort Leavenworth to Fort Towson on the Red River. A military road connected these forts. The U.S. Dragoons, organized in 1833 as an elite mounted regiment, were stationed at the fort. They patrolled the surrounding territories and escorted trader caravans. The fort closed in 1853, only to reopen during the Civil War. Army surgeons working at this and other posts were required to submit medical reports and detailed meteorological data to the Army Medical Department. Meticulous quarterly reports, from the Assistant Surgeons of the fort to the Surgeon General of the U.S. Army, included a register of diseases treated, and discharge and autopsy notes. Microfilmed medical records from the pre-Civil War period of 1842 to 1853 are still available at Fort Scott. Today the fort is a National Historic Site which maintains a restored period hospital and other related facilities.

### The Records

Between 1842 and 1853, there was a total of 4,221 patient visits for medical attention. This author, with the help of the Fort Scott staff, examined hand-written quarterly reports of this period. In addition to mere entries of diseases diagnosed, there are instances describing symptoms, signs and treatment offered. Of the 4,221 visits, 401 patients were registered as being "sick or convalescent" at the post hospital. Slightly more than half the visits were for fevers, diarrhea and respiratory infections. Malaria was a common cause of fever. Fevers were divided into at least six categories. Often each fever category was considered a diagnosis by itself. In the etiology of fevers and diarrhea, rainy weather and miasma from decaying organic matter were held to be the culprits. Headache and delirium tremens were the commonest neurological diagnoses. Other common diagnoses were neuralgia, epilepsy and apoplexy. Less frequent conditions were vertigo,



meningitis, partial paralysis, mental imbecility and mania. A case of frontal gunshot wound healed spontaneously, but left the patient with a "tremble" and a "predisposition to epilepsy." Three cases of epilepsy, including the one above, and two cases of "Mental" derangement or imbecility were discharged from active duty. Deaths occurred from gunshot wounds (2), stab wound to brain (1), meningitis and brain congestion (3), apoplexy (2) and hypothermia (2). Alcohol-related causes led the list, with 6 deaths. No cases of chorea, tetanus and cerebral concussion were seen, although these diagnoses were listed. Autopsy descriptions from 10 cases included an examination of the brain in four. The brain was congested and swollen in two cases of meningitis. Blood and brain parenchyma extruded in one case each of apoplexy and traumatic hemorrhage. Microscopes, although invented, had not found a wide application in analysis of human brain tissues.<sup>5</sup> Thus, tissue examination of the brain from these cases was not available. The table lists the frequencies of neurological diagnoses.

#### Discussion

I describe below some striking examples of medical beliefs and practice from those days. In the 18th century there was an elaborate trend in classifying diseases by genera, species and varieties. This system, a rueful attempt at applying taxonomy to medicine, merely succeeded in classifying symptoms rather than diseases. Scientists in the early 19th century had just succeeded in abandoning this short-lived, burdensome system. Yet its suffocating influence lingered in attempts at classifying fevers according to their temporal fluctuation. Each fever pattern was considered to represent a disease, *sui generis*. This belief remained, even though clinical thermometry was not yet in

### NEUROLOGIC DIAGNOSES FOR YEARS 1842–53 AT FORT SCOTT

All sick & Convalescent	401	%
Cephalalgia	57	14.0
D. T.	26	6.5
Neuralgia	9	2.2
Epilepsy	8	2.0
Apoplexy	4	1.0
Vertigo	2	0.5
Mania	2	0.5
Meningitis	2	0.5
Partial Paralysis	2	0.5
Total neurologic cases	112	27.7

practice. Only after 1867, when Edouard Seguin and Austin Flint published a series of articles on the use of thermometers, did thermometry become a measure of a person's vital signs. Medical practice without thermometry was equated to "theurgism" (literally, God's work, or magic) by Seguin. Only a few years before that, however, use of a thermometer was felt to be a "sissy" practice. 4

In most autopsied cases, regardless of the cause of death, the Fort's assistant surgeons made a clear note of the body temperature before dissection. Thus, some 25 years before Seguin, in Fort Scott the value of body temperature, at least in death, had been recognized. (Edouard Seguin's son, Edward, we should note, later became a founding member of The American Neurological Association and a Professor of Neurology at Columbia University.)

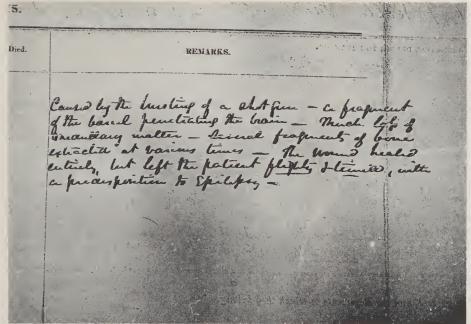
Cephalalgia was the most common neurological diagnosis (14%) among the sick at Fort Scott, a situation comparable to contemporary practice. The military physicians considered cephalalgia "... doubtless owing to simple gastric derangements."8 This belief implied that a gastric disturbance caused headaches. Today, we might consider migrainous gastric paresis as a consequence, rather than a cause, of headache. "Intemperance" due to alcohol caused delirium tremens, the second most common neurological diagnosis (6.5%). Alcohol excess predisposed the dragoons and infantry soldiers to other illnesses, especially hypothermia in winter. Meningitis was ascribed to intemperance and exposure to extreme heat. Drug addiction, to follow after the Civil War, was much less common in the 1840s. Epilepsy occurred in seven cases. Epilepsy, imbecility and mental illness resulted in discharge from the service, as would be the case today.

The following case description is of interest. In late 1849, a corporal sustained a "Fracture of Os Frontis caused by the bursting of a shotgun — a fragment of the barrel penetrating the brain much loss of medullary matter" resulted. "Several fragments et bone extracted at various times the wound healed entirely, but left the patient ... with a predisposition to Epilepsy." (See figure.) This case is, arguably, one of the early descriptions of post-traumatic epilepsy before the Civil War. It implies that the post surgeons had recognized a cause-and-effect relationship between brain trauma and epilepsy. By the end of the Civil War, such knowledge was commonplace. In a review of Civil War head injuries, Kaufman described 14 survivors of perforating head injuries; most others died quickly. Thus, the above case of the corporal is notable not only for his survival but also for the residual post-traumatic epilepsy.

Detailed gross descriptions of autopsied heart, lungs and viscera described the cause of death in 10 cases. Brain autopsies merely described congestion, hemorrhage and brain extruding "... in an unusual quantity from the cut surface." The last description, from a fatal case of "apoplexy" might have denoted cerebral edema. These descriptions, although inadequate by contemporary standards, still speak well of the physician of that day.

Medical terminology was much less anglicized in those days. Cephalalgia, odontalgia (toothache) and phthisis pulmonalis (pulmonary tuberculosis), terms of yore, are still recognizable today. One group of terms, however, defied any contemporary understanding initially; one of them was *Vulnus Sclopeticum*. Under the category of "vulnus" there were such entries as vulnus incisum and sclopeticum. In one case, vulnus sclopeticum resulted in the sad death of an officer. After consulting the Oxford English Dictionary and the Civil War forum of CompuServe, it became clear that vulnus sclopeticum referred to a bullet wound. A wound was called a vulnus. "Sclopeticum" is a derivation from "sclopette," which is a culverin, an early and crude handgun. Use of such terms lingered even until the late 1860s. Later, perhaps the banality of the detested minie ball "gunshot wound" gradually replaced fanciful terms such as vulnus sclopeticum.

The primacy of Weir Mitchell in the development of American neurology remains unquestioned.<sup>5,10</sup> Even before Mitchell, however, neuro-



The case report of a corporal who sustained a frontal gunshot wound. The wound healed, but left the patient with "epilepsy." This is part of a quarterly report of "Discharges and Deaths." The patient was discharged from service on November 12, 1849.

logic conditions had been recognized by such pioneers as Benjamin Rush, James Jackson and Amariah Brigham in the early 19th century. De-Jong referred to Amariah Brigham (1798–1849) and his treatise on neurological illnesses. 10 In an 1840 publication, Brigham discussed apoplexy, epilepsy and delirium tremens. These predecessors of Mitchell and William Hammond practiced in large East Coast cities. Kansas was still unrecognized Indian territory, known only as the frontier, and yet to attain statehood. Its doctors "... were treating the victims of the passion and hatred engendered by the slavery quarrel." The Kansas doctor, even some 20 years later, drew very uncomplimentary remarks about his dress, education and manners. The spread of medical knowledge was necessarily slow, and even telegraphic transmission was just a tentative experiment in 1844. Only the military physicians were obligated to keep detailed medical and meteorological records. Otherwise, record-keeping and documentation, two overwhelming contemporary concerns, were neither expected nor required of physicians at large. Thus, there was a striking chasm between the status of "hinterland" frontier medicine and the cutting edge of coastal medical thinking. Set against this backdrop, Fort Scott's assistant surgeons seemed to have practiced a superior caliber of medicine. Their records exhibit an awareness of current advances of that day, including a knowledge of several neurological diagnoses. Joseph Barnes was an assistant surgeon at the fort in the early 1850s. His report, from Fort Scott,

on the health of the Middle Division under his command waxes proudly on the salubrious state of his troops. In 1864, he replaced Hammond as Surgeon General. Thus, there is little wonder that the military milieu became the incubating medium for the birth of American neurology in later years.

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## A Medical School, A Medical Tool, and Some Medical Jewels

n this issue of KANSAS MEDICINE, we revive a column not seen in the journal for some years. In it, we aim to call to the attention of Kansas physicians books they may not have heard about, but will want to read.

As the Editor of JAMA wrote in 1895, "The guiding principle of a dignified medical journal is that the reviewer and editor shall tell his readers the truth about a book sent for review, as he himself thinks and believes. He does not assume infallibility, but simply gives his opinion. . . . We have no interest in misrepresentation, in exaggerated fault finding, or in exaggerated praise, and more than all we have no interest in silently ignoring good books sent us for review. The progress of medical science depends largely on the dissemination of the best books, and the recommendation or criticism of books by medical journals should be carried on conscientiously and in the interest of medicine."

David S. Jacobs, M.D. Book Reviews Editor

The University of Kansas Medical Center: A Pictorial History, by L.H. Larsen and N.J. Hulston (University Press of Kansas, 1992), illustrated and indexed, hardcover \$35.00.

This abundantly illustrated, beautifully printed work is a great deal more than an excellent archivist's photo album; its text is even better than the photos! The text includes facts not widely known. For instance, following the Civil War, 20 or more proprietary medical schools operated in Kansas and western Missouri. Many were diploma mills. In keeping with the 19th-century spirit of free enterprise, such schools sprang up across the nation, competing one with the next by shortening curricula and reducing requirements.

The authors discuss both the accomplishments of the school and the handicaps faced by its founders. The Dean at the struggling school from its beginnings in 1905 to 1911 was George Edward Hoxie, M.D. He is described as an idealist who supported devotion and personal sacrifice by physicians. Beset by political and other challenges, he recalled memories "like those of a bad dream, where one set of visions merges into another without any explanation or logical se-

quence." Dr. Hoxie was not to be the last Kansas physician plagued by such woes.

Dean M.T. Sudler, a key figure in the school and hospital, was fired for reasons of political patronage. He ultimately was replaced by Dean Harry Wahl, who served from 1924 to 1948. Dr. Wahl, too, faced entrenched political opposition and inadequate state resources. The medical school was described in 1926 as "forlorned and orphaned," having withstood years of struggle against the ravages of insufficient appropriation. Dr. Wahl has been described as wearing three hats: a good pathologist who remarkably also functioned as hospital administrator and dean.

Early teaching facilities are documented, including St. Margaret Hospital and Bethany Hospital, each in Kansas City, Kansas; and General Hospital in Kansas City, Missouri. (The St. Margaret Hospital is shown on page 31. Its name disappeared with the recent renaming of Providence-St. Margaret to Providence Medical Center. General was the forerunner of the Truman Medical Center.)

I have known Dr. Hubert Floersch for 29 years, but until this pictorial history became available I was unaware that this gracious gentleman could sketch skillfully. One example of his work, a wonderful caricature of Dr. Logan Clendening, appears on page 100.

A new spirit of progress was described during the Murphy-Wescoe period, which began in the late 1940s following Dr. Wahl's tenure as dean. Dr. Murphy is quoted as follows: "As knowledge of medicine has expanded, so has the death rate fallen. There is no way to bring down costs and at the same time keep up this declining death rate."

Following the Murphy-Wescoe period, from the 1960s, the attrition rate among high-level administrators at the Medical Center was alarming. This seemed especially so in comparison to Dr. Wahl's 24-year tenure. The text acknowledges that such administrative instability delayed solutions to identified problems, although a number of these individuals were extremely hardworking, dedicated people.

An illustration on page 181 of a class taking place in December 1982 does not identify the professor, whose back faces the camera. But it

can only be the dean of Kansas City and Kansas pathologists, Dr. Frank Mantz, in a characteristic pose. His enthusiasm is evident, even in a photograph.

The recently retired D. Kay Clawson, M.D., was Executive Vice Chancellor during an unstable period. His eight-year tenure is documented with

several photographs.

Only minor errors were detected by this reviewer. On page 124, the class is one of medical technology interns rather than laboratory technicians; and on page 196 the professional shown at a bacteriology bench is a medical technologist. The name of the chairman of the Department of Internal Medicine, Dr. Greenberger, is misspelled in a caption on page 202, but the photo is first-rate.

Small flaws notwithstanding, the authors warrant appreciation for a job very well done. This well crafted *Pictorial History* merits a place in a great many personal libraries. It is available at the KU bookstore or through the publisher (913-864-4155).

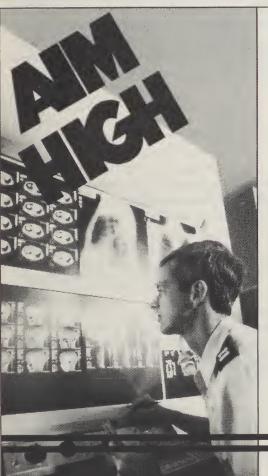
David S. Jacobs, M.D.

A Practical Approach to Occupational and Environmental Medicine, 2nd edition, by Robert J. McCunney (Little Brown, 1994), indexed, illustrated, 823 pp., paperback \$59.95.

The author states that the purpose of this book is to help all parties involved in occupational health (including employees, employers, and health care professionals) to achieve the mutual objective of advancing the healthfulness of the workplace. This process includes the identification of health hazards at work and the diagnosis, treatment and — most important — prevention of adverse effects from associated hazards.

For its effective practice, occupational medicine has always required a broad scope of knowledge, and this book supports that diversification with 50 chapters and 64 contributing authors. It has an excellent index, a requirement for a book intended as a general reference. Each chapter complements the others, and emphasis is placed on the idea that the health of the employee does not stop at the workplace but extends to the home, the community and the entire planet.

Cumulative trauma disorders (CTDs) repre-



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sent 56% of all occupational injuries, yet this book devotes only five pages to the subject. This is probably due to continuing controversy surrounding CTDs, the lack of statistical research to support direct or indirect relations between employee and the workplace, and the ready availability of other excellent references specifically addressing the topic.

This book would make a good resource for the health care provider involved with the demanding and widening field of occupational medicine.

J. Mark Melhorn, M.D.

The Good Doctor, by Susan Onthank Mates (University of Iowa Press, 1994), \$22.95 hardbound.

This collection of twelve short stories received the John Simmons Short Story Award from the University of Iowa Press. The author is a physician practicing in Rhode Island and a former concert violinist. All physicians will recognize and identify with the expressions of life and death explored in these stories, but women in medicine will find them particularly compelling.

The jacket illustration, an Italian renaissance painting of the Madonna nursing the Christ child, hints at the themes of nurturing, sacrifice and diverse cultures coming together that are the uni-

fying threads of the stories inside.

For example, in "Laundry," a physician on maternity leave tries to juggle her responsibilities as a wife, mother, doctor and human being. Should she take another job so the family can afford some extras such as new bicycles for the older children? "After all I am a doctor." Should she have used bleach on that last load of laundry? Is she turning into a housewife? "I swore never a housewife, never, never, I won't fall in that black hole, not me."

While she is away from her duties at the hospital, one of her patients dies after a long struggle with cancer. Should she have taken a more aggressive approach when he asked for her advice, or was she right to tell him that she would avoid the surgery? "Maybe I never learned this language right, medicine, I feel like I'm a visitor from some other world dressed up like a doctor but they can tell I'm not really one because in moments of great stress I revert to my native tongue."

In fact, the author excels at native tongues. In other stories, she captures the accented English of Cambodian immigrants and working-class Portuguese Americans and paints a horrifying portrait of a postwar German boarding school.

The author's eye for poetic detail is revealed in both narrative and dialogue, and she possesses a fine skill for understanding and expressing what her characters think, even when they are saying something quite different.

In "Sleep" a college professor mother and a dentist father are having trouble getting their four-year-old daughter to sleep all night without coming into their room and awakening them. They are preoccupied with their own careers, and each expects the other to spend more time on child care.

The mother's "specialty is philosophical poetry; she studies Plato, Aristotle, the Stoics, Epicurus. In imagining her life, she has not foreseen this quicksand of the minute."

The little daughter obviously senses the tensions in the household and begins to imagine monsters in her room. Loss of sleep makes all three irritable and anxious. The story is a wrenching portrait of families in which both partners try to advance their careers while raising happy, well adjusted children. Mates depicts the situation with authenticity and sympathy.

This reviewer found all the stories in the collection compelling, moving portrayals of the human condition as it is experienced late in the twentieth century.

Susan Ward

### **CRANIOPHARYNGIOMA**

(Continued from page 23.)

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# I Prepare to Study Medicine

ARTHUR E. HERTZLER, M.D.

he most encouraging sign that the human race may ultimately achieve a Christian civilization is to be found in the changing attitude toward children. Quality is receiving attention, something that does not worry the lower animals and that is relatively new among civilized races. Many now realize that children, having been born



without their consent, have some rights which parents must respect. It has become quite generally recognized that parenthood carries some responsibility. There would be no excuse to drag forth a description of the conditions of the past were it not that this concept is not generally recognized, not even in the next block. Yet in the history of progress in the attitude toward children we find encouragement for the hope of further advance in the future.

The old and new ideas loom large in the life of every practicing physician. There are still neglected children who are duplicating the childhood which was the common lot half a century ago. One has only to look around the corner to find the old conditions existing today but little changed. This state is the concern of civilization in general. "Bring the little children unto me" has sounded down the avenues of time for two thousand years. Yet even today the admonition falls on unhearing ears. It was an expression of affection and carried no mathematical implications

The childhood of sixty years ago was essentially one of neglect. It was due not to a lack of parental affection, but to the customs of the times. One heard the expressions "Spare the rod and spoil the child" or "Lick hell out of them and larn them," or "Lam them and make them tough." These expressions, though having a different ecclesiastic touch, led to the same result. It made them tough or broke their spirits. To the child these quotations had an equally ecclesiastic sound as they were stored in our subconscious selves.

To cause a child to obey because he loves his parents is a new thought in our civilization, a thought grasped after only two thousand years of alleged Christian civilization.

This is not the place to examine too closely the reasons for the disregard of the rights of the child. Children played a useful economic part in the struggle for existence, to which end everything was sacrificed. The child as such had no inherent rights. Having produced him, the parents' obligations were fulfilled. His presence in the scheme of things was almost wholly economic and he was levied on at the earliest possible period figured in terms of usefulness. This concept, admirable as a general proposition, was the subject of common abuse. Minor ailments did not absolve the child from his labors. Unless the child was obviously acutely ill no attention was paid to his complaints. Many diseases, insidious in their beginning, caused no distress, hence they passed without recognition, and being unrecognized were ignored. Only when death threatened was the doctor appealed to for help.

The child once born had the choice of dying or fighting for his life, and circumstances largely decided which would be his portion. Broadly speaking, the fittest survived; the weakling had no chance. This attitude is not so neglectful as it sounds. Parents learned that to call a doctor then available was likely to end only in expense. My first experience with a doctor, before my recollection, resulted in the prognosis that I would die before morning. He added, so it is related, "Too bad, he is such a smart-looking boy." I have always cherished this generous opinion because, so far as I know, he is the only person ever to make this keen observation.

It must be remembered that those were the days of the pioneer. It was a case of "root hog or die" for the grown-ups as well as the children. Children merely took up the burden; it was a family affair. This was the spirit which built the nation.

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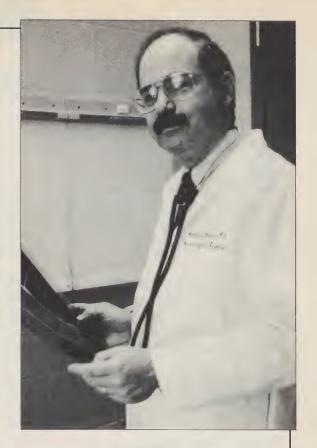
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# Galloping Disagreement

DONALD L. VINE, M.D.,\* Wichita

Discussions of the cost of medical care often suggest that a "complete history and physical" be performed before ordering a particularly expensive diagnostic test, as though the doctor's time were free. The doctor's time, of course, is far from free.

With this in mind, every portion of the physical and history should undergo the same scrutiny with respect to its cost in time, benefit in information and reliability of results that any laboratory test is expected to pass. If a diagnostic test result could not be reproduced in a variety of laboratories by a variety of technicians, then it would not pass the reliability test and should not be performed.

# Fourth Heart Sound

Thirty patients scheduled for cardiac catheterization at the Methodist Hospital in Indianapolis during the mid-1980s and 20 "normal" hospital employees or ambulatory non-cardiac patients underwent cardiac auscultation, echocardiography and phonocardiology. The examiners were staff cardiologists and medical residents who were blinded to the results of non-auscultatory examination findings. A total of 342 physical examinations were performed by nine examiners. Results were compared with phonocardiographic findings, and interobserver agreement was evaluated.

A phonocardiographic fourth heart sound was recorded in 69% of subjects and a split first sound in 73%.

All nine examiners agreed on the presence or absence of a fourth heart sound in only 20% of the subjects. A fourth heart sound was present by phonocardiography in 69%, but was recognized in only 30% of all examinations. Of the 16 subjects lacking a recordable fourth sound, cardiologists mistakenly identified one as present in 10%. House officers were similarly mistaken 33% of the

time. House staff were more likely to confuse a fourth heart sound with splitting of the first sound than were cardiologists.

# Third Heart Sound

Two cardiologists, a cardiology fellow and a medicine student from McGill University each examined 36 to 65 of 81 patients with (47%) or without (53%) a diagnosis of congestive heart failure. Interobserver agreement was determine by pairing each observer with every other observer and analyzing concordance.<sup>2</sup>

Percentage agreement was 50% or less for each pairing, with a cumulative average of 49%. If partial agreement was considered by using a weighted percentage, the cumulative agreement reached 62% and three pairs of observers were in partial agreement 71% to 78% of the time.

Finally, the kappa score was determined to evaluate the deviation of the paired agreement beyond chance alone. The cumulative kappa score was 0.3. This means the chance of the second observer hearing a third heart sound noted by the first observer was only 30%.

# Formal Testing

Computer-processed audiotapes were used to test 501 medical students, internal medicine residents and cardiology fellows on their ability to distinguish heart sounds and murmurs.<sup>3</sup>

Third and fourth heart sounds were correctly identified and distinguished from similar sounds (opening snaps, early systolic clicks, etc.) 20% to 35% of the time with little difference between different trainee groups. All three groups were better at distinguishing the presence of an abnormality with timing similar to that of a third or fourth heart sound.

# Comments

These studies, two of which were published in 1987, represent the bulk of recent literature that evaluates the accuracy and interobserver reliability for identifying gallop sounds.

The data for determining sensitivity and specificity of the auscultatory examination are not provided, but each study suggests major limitations

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in the accuracy of the physical examination for

correctly identifying gallop sounds.

While it would be unthinkable to order a test from a laboratory using uncalibrated equipment, medical schools do not routinely test a student's ability to distinguish between two sounds separated by decreasing increments of time, nor for systematic evaluation of the ability to hear sounds in the frequency range of gallop sounds — nor is this a requirement of medical licensure.

Indeed, a recent survey indicates that only 27% of internal medicine and 37% of cardiology programs offer structured auscultatory training. Of the programs that offer such training, audiotapes

were used in less than half.3

It is common, when students' and physicians' inability to perform accurate physical assessment is discussed, to decry the loss as an invitation to more tests and less cost-effective management of patients. This conclusion may not be true. The question now becomes whether or not it is worth the time and expense involved to assure that all physicians can accurately identify the presence of third and fourth heart sounds. Does the identification of a fourth heart sound, for instance, shorten hospital stay, eliminate the need for specific additional testing and help in choosing one form of therapy over another? Maybe, but large, prospective, randomized trials proving this hypothesis are not available.

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# PHYSICAL ACTIVITY

(Continued from page 18.)

amount of the disease burden which can be lessened by physical activity.<sup>2</sup> Individuals may be more likely to adopt a lifelong habit of physical activity if they find activities which are enjoyable to them. Walking, swimming, bicycling, skiing, team sports, yard work, and gardening are just some of the many activities which can help to

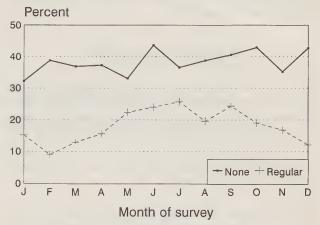


Figure 2. Leisure-time physical activity by month: Kansas, 1993.

avoid disease and improve participants' quality of life. Health care providers and other interested persons can contact their local parks and recreation department, recreation commission, schools, YMCA/YWCA, or local health departments to find out about organized activities in their area.

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# To the Doctor in the House

Earlier this year the KMS Alliance sponsored a contest. Nancy Craig, Immediate Past President, says, "In honor of Doctors' Day, the KMS Alliance asked for submissions of artwork and essays from physicians' children. These are the winners, and we proudly present their work in honor of the physicians of Kansas. We, as your spouses and families, are proud of the work you do for medicine and for the people of Kansas."

# A FAMILY OF DOCTORS

In my family there are eight doctors who have practiced medicine in Newton. My great-great-grandfather Dr. John T. Axtell and his wife, Dr. Lucena Axtell, founded Axtell Hospital and Clinic in Newton. It has been special to have my uncles, my dad, and my grandfather all take care of me. I like to go into the clinic and see my dad. He's an ophthalmologist. He helps a lot of people.

Recently my dad came to my classroom to discuss the value of an education for American Education Week. He talked about what he had to do to become a doctor. He said that it took a lot of work, but it was worth it. I hope to be a doctor someday too.

Let's celebrate Doctors' Day on March 30, 1995, by letting doctors know we are very thankful for having them and that we care about them!

Chris Beck, Age 11 (Son of Rick and Mary Beck, Newton)

# **DOCTORS' DAY**

My dad's a family physician in Kansas. I like this because he knows what to do when we are sick, and I always feel safe. I figure if I choke, he'll know what to do. He's also pretty smart, and he can always help me with my homework. I'm proud of him, even though he sometimes makes me do a little extra to get it right.

Sometimes I feel sorry for him because it seems like he's always studying or reading something unusual, but I know he likes what he does.

I wouldn't trade his job for any other, and I know he wouldn't either. My dad is a great doctor, and I love him for it.

Katie Kellerman, Age 12 (Daughter of Rick and Janet Kellerman, Salina)



Crayon drawing by Jennifer Beck, age 7, daughter of Rick and Mary Beck, Newton.



Crayon drawing by Lauren Natalia Moore, age 6, granddaughter of Robert and Betty Moore, Caney.

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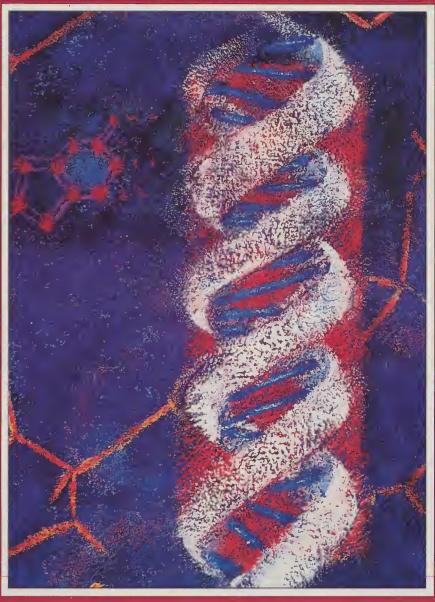
# MEDICINE

JOURNAL OF THE KANSAS MEDICAL SOCIETY

Summer 1995

Volume 96, Number 2





Special Feature: Ethics and the Human Genome Project Annual Meeting: Official Proceedings Balloon Valvuloplasty for Isolated PVS Legal Implications of Alzheimer's Disease



# KANSAS MEDICINE

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Since this issue of KANSAS MEDICINE features papers presented at the recent seminar in Wichita on the ethics of the Human Genome Project, it seemed fitting to use a photo of the DNA molecule on the cover. This was provided by Sechin Cho, M.D., of Wichita. Since DNA was discovered in 1962 by J.D. Watson and F.H.C. Crick, based on research by M.H.F. Wilkins, this molecule has been the center of much investigation and discussion as scientists have tried to learn its secrets and apply their knowledge to preventing genetically inherited diseases through corrective genetic engineering.

The O.J. Simpson trial has also sparked worldwide interest in the subject of DNA and its use in the science of criminology. It will be interesting to see how and if science and the judicial system will utilize this new tool in the pursuit of justice.

Nucleic acids are complex compounds found in all living cells. Ribonucleic acid (RNA) is found throughout the cell, while deoxyribonucleic acid (DNA) occurs only in the nucleus. It contains one less oxygen atom in its structure than RNA.

The importance of DNA is that it plays a vital part in heredity. It contains the genetic "code" or blueprint, instructions for the development not only of the individual but also his or her descendants. DNA is the essential ingredient of the gene and is the chief component of the chromosomes, which occupy every cell of our bodies

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ELIZABETH (BETSY) YADON 20 YEARS EXPERIENCE WITH MEDICARE and become visible as the cell divides.

The configuration of DNA has been termed a spiral double helix or a double-stranded molecule. The molecule is made up of phosphate, deoxyribose (a sugar), and compounds called bases. These consist of the nitrogenous bases: adenine, guanine, thymine or cytosine. They are arranged in units of phosphate-sugar-base called a nucleotide. Each DNA molecule is composed of two nucleotide chains with the nitrogenous bases facing each other. These chains are arranged like a pair of spiral staircases. Each molecule may contain as many as 1,500 nucleotides. Each chromosome contains many thousands of DNA molecules. Codons consist of groups of three nucleotides. Any one of the four nucleotides can be at each of the three positions, resulting in 64 possible combinations or codons. The precise order of arrangement and exact proportions of each base are unique for each species of living things. The human cell consists of 46 chromosomes with half coming from each parent.

It is believed that DNA works through enzymes, antigens, hormones, and organized substances, to determine which chemical processes shall take place in the embryo, but also maintains various metabolic processes in the adult. It literally determines the growth and development of the individual from conception to grave.

While every cell has the complex genetic code of the individual, only certain cells "specialize" in what they produce. One theory suggests that a particular type of DNA is involved in controlling which genes are "turned on" (in a scientific sense) and which are not. It also appears that RNA found in the cytoplasm of the cell is the intermediary. The information about the genetic code on the DNA molecule is brought to the RNA by a special type of RNA called messenger RNA formed by the nucleus.

The Human Genome Project has as its goal the mapping of the human genome, and many countries are working feverishly to be the first to accomplish this feat, since it will represent monetary as well as scientific rewards. But, as one participant at the Wichita seminar remarked, "When we have the 'genetic road map' completed, we still may not know how to fold it."

We hope you will find the papers from the Human Genome Seminar informative, stimulating and thought-provoking because your patients will seek your help as they struggle to find the "right" answer to many of the ethical questions raised by this new knowledge. W.E.M.

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# Legal Implications of Alzheimer's Disease

WAYNE T. STRATTON, J.D.,\* Topeka

requently the law lags behind scientific developments. The inertia in the development of legislation or the maturation of judicially resolved controversies does not seem to occur with the rapidity of scientific breakthroughs. But unfortunately,



while the terminology has developed from "dementia" to "senility" to "Alzheimer's disease" (AD), or to "Alzheimer's disease and related disorders" (ADRD), no remedy has yet been discovered. What has been learned is the extent to which individuals are affected by the disease. Persons age 65 to 74 have a 1-in-25 chance of having AD. For those 85 and older, it is 45%. Stated another way, statistically, if a couple reaches 85 one of them will have AD.

Since this segment of the population is growing rapidly, the social implications of the disease are becoming apparent. The need for family or other forms of care may last six to eight years, but can extend for decades. As the disease progresses, the individual becomes increasingly debilitated and may lose all bodily functions.

In 1994 the Advisory Panel on Alzheimer's Disease issued a report on the legal issues in care and treatment. This panel was authorized by Congress and was appointed by the Director of the Office of Technology Assessment, a non-partisan analytical agency that serves the U.S. Congress.

As the panel notes, the economic cost of AD is staggering. Patients suffering from the disease may require extended periods of nursing home

care, and it is one of the late-life health problems most feared by American families, due both to the enormous suffering it causes and to the significant costs it incurs.

There is little law specific to AD and, consequently, it is necessary to look to the general areas of a number of subjects for guidance:

Determination of legal capacity is expressed in general terms under Kansas law. A person shall be considered a disabled person under the law pertaining to guardians or conservators when their ability to receive and evaluate information effectively or to communicate decisions, or both, is impaired to such an extent that the person lacks the capacity to manage such person's financial resources or to meet essential requirements for such person's physical health or safety, or both. The statute requires that a person who is thought to lack capacity to meet the essential requirements for physical health or safety must be unable to take those actions necessary to provide the health care, food, shelter, clothing, personal hygiene and other care without which serious injury or illness is more likely than not to occur.

Natural Death Act. Kansas has adopted a Natural Death Act which provides that life-sustaining care may be withdrawn for a "qualified patient." A qualified patient is one who has executed a declaration in accordance with the act and who has been diagnosed and certified, in writing, to be afflicted with a terminal condition by two physicians who have personally examined the patient, one of whom shall be the attending physician.

Durable Power of Attorney. In addition, Kansas has adopted the durable power of attorney for health care decisions procedure, which allows a person to grant authority to another person to make health care decisions. The power of the agent to act is not limited by the lack of capacity of the principal.

The Advisory Panel on Alzheimer's Disease makes several observations regarding ADRD and the foregoing types of legislation. It suggests that the early feature of memory loss alone does not necessarily compromise a person's ability to make

\*KMS Legal Counsel.

Comments appearing herein are not intended as a substitute for legal analysis or advice. Answers to legal questions depend largely upon the particular facts of a case. The reader is urged to consult an attorney for answers to specific legal questions.

These comments do not necessarily represent the views of Kansas Medical Society. For further information, contact Mr. Stratton, 515 S. Kansas, Topeka, KS 66603.

informed decisions or to express preferences; impairment or judgment arises in the course of the disease, not necessarily at its diagnosis. The panel suggests the court should weigh this distinction carefully in competency determinations.

The panel further recommends that because persons diagnosed in the early stages of AD often retain the ability to undertake voluntary transfers of decision making, health care professionals working with such persons should provide information about the mechanisms through which such voluntary delegations may be made. Physicians are in an important position to educate and influence a patient's recognition of the necessity of the early execution of a durable power of attorney.

It is critical that people express their wishes regarding care if they have received a tentative or confirming diagnosis of the disorder in its early stages, or if there is any concern about potential future loss of cognitive ability.

Kansas law permits the withdrawal of life-sustaining care, as mentioned above, when a patient has been diagnosed and certified in writing to be afflicted with a terminal condition by two physicians who have personally examined the patient, one of whom shall be the attending physician. In the panel's opinion, AD today must be considered a terminal disease; end-stage AD is no less terminal than end-stage cancer or heart disease. The panel suggests that individual physicians, courts and families should be granted broad permission to establish when an advance directive of a person with AD should be honored.

Until medicine finds a cure for this devastating illness, physicians are in an important position to assist their patients with the social and legal implications of the disease.

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# History and the Genome Project

ROBERT P. HUDSON, M.D.

Last spring, the University of Kansas School of Medicine–Wichita, the Wichita State University, and Kansas Health Ethics co-sponsored a seminar entitled "Present at the Re-Creation: Human Genome Ethics Conference." The presenters delved into the rationale of the Human Genome Project, current knowledge, the potential for good and bad applications of new information, and the ethical issues raised by this knowledge. It seemed there were many more questions than answers.

In this issue of the journal, we publish several papers presented at the conference. To introduce them, we gladly relinquish our column space this month to Robert P. Hudson, M.D., renowned medical historian and beloved teacher of many practicing physicians among our readership. At the conference, Dr. Hudson made a presentation that urged caution and deliberate restraint in lieu of a rapid rush to implement the real and perceived potential benefits of human genome research. His views of mistaken and mishandled treatments of the past (all well intentioned and based on the state of the art at the time) serve as a warning not to make similar mistakes through inappropriate clinical applications of information gained from the Human Genome Project. W.E.M.

he nuclear genie escaped the bottle at Hiroshima with no previous public debate — indeed, with no public knowledge that scientists were busily stuffing a terrible genie into the bottle. The very future of civilization on Earth was decided by a group of scientists simply doing it the way scientists did at the time. That damage is done. Few historians — few thinking persons of any occupation, I imagine — doubt that one day, probably sooner than later, some crazed person will explode a nuclear device as a form of extortion or terrorism, or simply as a maniacal ruler having a bad day.

So far, relatively few good or bad clinical actions have derived from the new genetics. There is still limited time for thoughtful planning. But the power inherent in the genetic capabilities now close at hand can only be characterized as awesome, and my historical perspective tells me that if left to themselves, the pioneers of genetic manipulation will use each new discovery as quickly as a medical opportunity presents itself. I fear this will occur not just in somatic cell therapy, but eventually in germ line cells as well. To avoid the stigma of doing away with "defectives," germ line interventions will occur under the seductive term "enhancement therapy," meaning manipulation designed to reproduce a "desirable" trait in succeeding generations.

I may end up a masculine Cassandra in this matter, but I doubt it. I am driven to my melancholy conclusion by some three decades of concerted study of what physicians have done with the discoveries handed them by medical science.

To bolster my contention, consider only three of the many medical conditions that were labeled as diseases in my training days, but which are no longer considered as such today. In particular, note what was done with them once they attained the status of "disease."

Status lymphaticus was a disease of the newborn, in which an "enlarged thymus" was believed to put pressure on the trachea, resulting in asthma-like symptoms and even death. To shrink the thymus, physicians employed x-irradiation, which indeed reduced the size of the gland, but which also produced carcinoma of the thyroid in a number of these persons when they reached their 30s and 40s.<sup>1</sup>

The second example is chronic intestinal stasis. When diagnostic x-ray and contrast media became available at the turn of this century, physicians were surprised to find that several abdominal organs, the colon in particular, drooped far below what was considered their normal position. It was held that kinks resulted, which slowed the transit of the intestinal contents. This allowed the absorption of toxins produced by intestinal bacteria, leading to what was termed auto-intoxication. Many dire diseases, including cancer, were thought to result from this sequence. A host of treatments were utilized, the ultimate being total colectomy.<sup>2</sup>

The third diagnosis was focal infection, which was defined in Cecil's textbook as "a localized infection which produces symptoms in other parts of the body, but without showing bacteria in the blood." The more important sites of focal infec-

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P.O. Box 2307 • Topeka, KS. 66601-2307 913-232-2224 tion were teeth, tonsils, sinuses, the gallbladder, genito-urinary structures, and occasionally the appendix. As no objective evidence was required to establish the diagnosis, untold thousands of non-vital organs were removed, often pro-

phylactically.<sup>3</sup>

These three examples share characteristics that are pertinent to the present status of genetics. First, they occurred in organs which were thought to have no function, or whose function was considered dispensable. Of the thymus, my 1950 textbook of pediatrics said, "No structure of the body is less understood, nor, with few exceptions, has had more functions attributed to it, than the thymus gland." My physiology text did not even index the tonsils or adenoids, two of the structures most commonly indicted in focal infection.<sup>5</sup> And regarding the colon, the seat of most intestinal stasis, no less a scientist than Nobelist Elie Metchnikoff pronounced that, "It is no longer rash to say that not only the rudimentary appendix and caecum, but the whole of the large intestine are superfluous, and that their removal would be attended with happy results."6

Consider the unmitigated arrogance! Simply because the role of the large intestine had not yet been clearly elucidated, a leading scientist was ready to conclude that this immense, complicated abdominal tube, replete with nerves and blood vessels, was nothing more than a sewer pipe which could be casually discarded. I do not take refuge in teleology in these matters — that is, the argument that the human body was perfectly designed for all its functions by a divine providence. I have personal reason to question the wisdom of running the urethra through the prostate, but I do not have the hubris to declare the arrangement an unequivocal mistake, nor suggest how it

should be improved.

The second pertinent feature shared by the examples is that the errors in theory which produced the "diseases" would have been relatively harmless if physicians and their willing patients had not gone on to concoct therapies, many of which produced dreadful morbidity and mortality. Sir Arbuthnot Lane, the father of intestinal stasis, removed more than 1,000 colons personally, with a total operative mortality of 24%.<sup>7</sup> Two hundred and forty patients dead from treatment for what we would consider nothing more than constipation.

In each example, the medical scientists made their pronouncements from their Olympian perches, rode over any opposition from their colleagues, and never lacked a supply of unwitting patients.

To return to the main subject, we do not understand the workings of the human genome in anything like real depth. Most experts agree we have only scratched the surface. Yet, as in our examples, we are pressing ahead without knowing how the genome may work as an integrated structure. Despite token input from a few humanists, medical scientists are in charge. The misgivings and questions being raised by ethicists, theologians, legal thinkers and some cautious scientists are

scarcely being heard.

Even some of the humanists are apparently being swept along in the excitement. LeRoy Walters, of the Kennedy Institute of Ethics, wrote, "The central ethical questions in somatic cell gene transfer and therapy [are] well understood by researchers, by politicians, by the press, and by the general public." We are supposed to believe that the immensely complex ethical ramifications of the genome project (or the genome itself, for that matter) are understood by a public whose rate of minimal scientific literacy was estimated at a mere 7% even before the serious decline in American education was generally recognized.

Most, by far most, of the dreadful results of erroneous medical theories pressed into clinical practice prematurely could have been avoided by nothing more than the passage of time and the improved understanding that followed. James Neel has lived through most of the new genetics. For the moment I stand with him when he pleads,

"Let's for once take our time." 10

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# Assessing the Social Impact of Human Genome Research: A Status Report

ERIC T. JUENGST, Ph.D.\*

he Human Genome Project is an international scientific research initiative with three major goals. The first is to create detailed maps of certain molecular landmarks, called "sequence-tagged sites," on all 23 human chromosomes. Geneticists can use these molecular landmarks to locate the specific sections of the DNA that provide cells with instructions for building particular proteins; e.g., the human genes. The second goal is to develop better ways to measure the distance between those landmarks in molecular units (e.g., numbers of DNA segments, or nucleotides) so that the genes can be isolated more precisely between them. The third goal is to improve DNA sequencing technology, so that once genes are found, they can be decoded more efficiently. The project has been planned as a 15-year effort, ending in the year 2005, and represents the most ambitious "tool-building" project within biology to date.1

The complete set of genes in human cells (i.e., the human "genome") is estimated to contain between 50,000 and 100,000 individual genes, but only a few thousand of these have been isolated and identified so far.

# The Clinical Impact of Genome Research

The medical value of identifying specific genes lies in the clues they can provide to the causes and dynamics of a wide variety of diseases, from inherited disorders like sickle cell anemia to acquired health problems such as cancer, diabetes and heart disease. The identification of the gene involved in cystic fibrosis, for example, showed that the disease comes from the inability of patients' cells to take in and pump out salt in the normal way. That made it possible to identify the specific genetic mutations in the salt transport gene that cause the problem. For basic biologists,

genes can also provide valuable clues to the normal operations of human cells, by indicating which proteins are involved in a particular cellular process.

Once specific genes have been located, isolated and decoded in the laboratory, they and their mutations also become easy to detect in the clinic. That means that long before researchers will be able to produce new therapies on the basis of the pathophysiological clues genes provide, it will be possible to screen people for the presence of those clues.<sup>2</sup>

# **Ethical and Social Implications**

Managing the acquisition and delivery of this new form of health risk information will involve addressing a cascade of personal, professional, ethical and public policy challenges.

For the individuals and families who might avail themselves of these tests, questions will arise about the relative benefits of the knowledge they might gain, given their tolerance for uncertainty, and their interpretation of the personal significance of genetic risk information. This is often interpreted deterministically, as an immutable prediction of future problems, and reductionistically, as a fundamental indicator of personal identity. Both tendencies can complicate personal decision making about the merits of acquiring genetic risk information, and open the door to the stigmatization of people whose genetic health risks are known by others.<sup>3</sup>

Acquiring genetic health risk information also raises a number of ethical questions for individuals and families about their moral obligations to their kin. Genetic information almost always applies to relatives as well as the individual tested; do "testees" have obligations to warn their kin of the familial risks they have discovered? Conversely, do families have any obligation to assist a relative in clarifying a genetic health risk, when unwanted information about themselves may be generated in the process? Finally, genetic testing raises questions about a family's obligations to its

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future generations as well: given that the growing range of genetic risk assessments will be able to be performed prenatally as easily as postnatally, what set of risks should conscientious parents test for as part of their reproductive decision making?<sup>4,5</sup>

In practice, answers to the dilemmas of familial obligation most often emerge from the specific histories and traditions of particular families. However, the same issues have analogs for the health professionals who help families through their decisions, as questions of professional ethics. How much education and counseling should accompany responsible genetic testing, and how seriously should personal understanding be taken as an access condition on testing services? If the patient decides not to warn relatives about their common risks, does the professional have an obligation to do so anyway? Should the profession set limits around the set of traits that it is willing to test for prenatally, regardless of parental requests? The biotechnology industry's interest in capitalizing on new testing capabilities by marketing them directly to health professionals and the public makes these questions of professional standards particularly urgent.6

Once tests are developed and deployed in clinical practice, another class of public policy questions emerges: questions about how the results of such tests might be used by parties outside the clinical setting. For example, consider the use of genetic testing techniques to benefit the public health through mass screening programs aimed at reducing the incidence of genetic disease. In the case of newborn screening and dietary prophylaxis for inborn errors of metabolism, this strategy can benefit society by benefitting the affected children. However, in the case of adult carrier screening for recessive diseases, a screening program can only reduce disease incidence if the adults involved take reproductive steps to avoid the birth of children with the homozygous genotype. A public policy endorsing such actions could be construed by clinicians and prospective parents as unduly coercive, and it risks exacerbating the stigmatization that already challenges people with genetic disabilities in our society.<sup>7</sup>

Moreover, knowledge of a person's genetic health risks can work directly to the individual's disadvantage if that information is used to determine their access to opportunities provided by social institutions and practices beyond the clinical setting. Should life insurance providers, for example, be allowed to use genetic risk assessments to underwrite prospective clients? Might self-insured employers adopt exclusionary genetic screening programs to avoid potentially high-cost employees? For social policy-makers, advances in human genome research will increasingly raise the challenge of defining the nature and limits of "genetic discrimination" as it arises within different institutions and practices.<sup>8</sup>

# Science Policy Implications

The Human Genome Project also raises questions for society about the future directions of research in human genetics. Inevitably, the gene discoveries it makes possible will suggest new explanations for many normal human differences as well, including variations in personality, behavior and intelligence. Moreover, as the project's maps are applied to different human populations, it will become possible to clarify the history of our species' migrations and ethnic differentiations. If these research efforts are to alleviate, rather than exacerbate, society's existing burden of prejudices, many argue that their design and conduct will have to be unusually influenced by assessments of their social impact. Against biology's history of bad experiences serving ideological goals, however, this insertion of social concerns into the design of scientific research draws criticism from many scientific quarters. Is it right to ask scientists to try to anticipate and influence the social uses of their research?9

One example of an attempt to complement scientific research with social impact assessment is the Human Genome Project itself. Acknowledging the cascade of ethical, legal and social issues its work could generate, the Human Genome Project has set aside a standing proportion of its research budget for projects addressing these issues. Since 1990, this support has generated a professional and scholarly community that has become quite active in attempting to establish research, clinical and public policies that can maximize society's ability to preserve its commitment to moral equality in the face of our species' biological diversity. <sup>10</sup>

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# Genetic Advances: Influences on the Delivery of Health Care

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remendous advances in genetic science and biotechnology have occurred in the last decade, and clinical applications of these advances are increasingly present in health care. These accomplishments are generally driven by a desire to understand and improve the health of individuals. Each discovery holds new insights into human genetics and new prospects for clinical diagnosis and treatment. Technologies which were once a hopeful expectation are now feasible and in some situations routinely used; the shift from the novel to the normal is rapid. Our understanding of the contribution of genetics to common disorders and cancer is burgeoning. Clearly, there are immense benefits for individuals and families. Yet the promise these scientific breakthroughs hold is at once exciting and alarming.

While lauding our accomplishments in human genetics, we must anticipate the poignant consequences and problems attendant to this vast scientific progress. Concerns about social injustices, unfair discrimination, personal burden, minimal therapeutic interventions, misuse of genetic information and access to services are valid. As genetic science evolves and matures, increasing attention must be focused on the social, ethical and professional implications. The benefits associated with the expectations of genetic advancement should not obscure the need for health care professionals to thoughtfully consider and responsibly guide the integration of genetic services into the delivery of health care and thus keep the scale weighted on the side of promise.

# Genetics in the General Context of Health Care

It is important to appraise these genetic advances

within the broad context of health care. The failure of national health care reform legislation has not impeded the rapid and encompassing transformation of the U.S. health care system. The trends in health care are, in large measure, driven by economic and business considerations. Contemporary debate over health care reform and issues of equitable access, quality of care, resource allocation and cost containment have implications for genetic health care.

This era of technologic advancement, entrepreneurship, information expansion, and consolidation and restructuring of delivery systems presents new challenges and redefines others. Managed care is emerging as the most prominent archetype of health care delivery and financing. There is a shift from hospital care to outpatient and ambulatory care, and a greater emphasis on community-based services and primary and preventive care. Clinical decision making is influenced by the development of technology assessment, outcome measurements and practice guidelines. These unprecedented and unrelenting changes are revolutionizing the way in which health care is being delivered.

### Genetics in Health Care Delivery

Integrating genetics into the delivery of health care can be considered from three perspectives: services, resources and infrastructure. Each of these raises practical concerns and challenging questions and requires an understanding of the ethical and professional implications.

Services. Questions related to describing what genetic services are, where they are delivered and by whom are important. Though the term genetic services is somewhat vague and variously defined, it is used here to include diagnostics, laboratory, therapeutics, counseling and education. Each of these service areas requires a careful evaluation and the development of standards, which could include an assessment of quality, accuracy, clinical indicators, preparation of providers, availability, informational protection and reimbursement. The provision of genetic services has moved be-

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yond university-based genetic clinics to tertiary-care settings, primary care, public health programs, private laboratories, medical offices and satellite genetic clinics, and it involves a larger group of health professionals.

Diagnostic services is the area of genetics that has seen the largest expansion and application in clinical care. Prenatal testing, carrier identification, newborn screening, presymptomatic and predictive testing, and disease determination are all possible and increasingly available. Each of these raises unique and complex questions. The associated concerns of genetic heterogeneity, emotional ramifications, uncertainty of diagnosis, and variability of disease expression necessitate careful review and analyses of benefits and burdens. While diagnosis is not cure, the information elicited can be significant in conceiving appro-

priate therapies and cure.

It is vital to critique when and how genetic testing and screening are introduced into clinical practice. Unless health professionals evaluate the responsible introduction and utilization of these services, they may arrive because of market forces and monetary interests, rather than professional recommendation. Assessment prior to the introduction of new diagnostics should at least include clarification of goals, establishment of criteria for recommending diagnostics, priority setting among tests and/or conditions, and determination of the information necessary for individual decision making. It is important to consider in advance what criteria will be utilized to determine the relative value of these technologies and determine on what basis they will be incorporated into clinical practice.<sup>2</sup>

Therapeutic services have not expanded as rapidly, and many genetic disorders are seen as therapeutically futile. Interventions have focused on symptom management and palliative care, rehabilitation, medical monitoring, dietary approaches and psychosocial support. The hope of gene therapy has caught the imagination of both the public and health providers. Currently the expectations surrounding gene therapy exceed the immediate prospects. There is also a great deal of controversy around human gene therapy, and often the acceptability distinction is drawn between somatic gene therapy and germ line therapy.<sup>3</sup>

Genetic counseling has emerged as an important specialization within genetics. Historically, genetic counseling focused primarily on providing medical and genetic facts and risk figures to indi-

viduals making reproductive decisions.<sup>4</sup> Given the expansion of genetic technology, counseling has become more dynamic, and its context has broadened. As genetic services become integrated into the broad delivery of health services, all health providers will need to be able to give accurate and sensitive genetic information. While all health professionals may not be prepared to provide "genetic counseling," they will be called upon to render patient counseling about genetic concerns. The ethos of non-directiveness, which is at the core of genetic counseling, will undoubtedly undergo some scrutiny as it is interfaced with traditional concepts of health care decision making.<sup>5</sup>

Education about human genetics is vital for health professionals and the public. Though there is increasing genetic information through mass media in magazines, newspapers, infomercials and television, there is a paucity of formal genetic education programs. The quality of information that is generated in the public arena varies and requires careful scrutiny to assure its accuracy and usefulness. Additional educational opportunities to prepare professionals to provide competent genetics care and to help the general community to understand and make decisions around genetic issues is essential.

**Resources.** When one considers the quickening pace of human genetic discovery and its assimilation into routine health care, one realizes there is a significant personnel issue. Health care professionals in all settings will care for individuals with genetic concerns, whether they be related to specific disorders or to screening, testing and counseling options. It seems apparent that at this time there are not enough health professionals prepared to deal with the magnitude of demand for genetic services. The number of trained medical geneticists and genetic counselors will be insufficient to deal with the projected growth in this area. So far, physicians, nurses and other health professionals have generally been inadequately educated to deal with this dimension of practice. With the expected continuation of significant genetic progress, it is crucial that professionals recognize the importance of this area of practice and be adequately prepared to respond.<sup>6</sup> Education must be provided to students in health care programs, as well as to large numbers of health providers already in clinical practice.

*Infrastructure.* Vital to the responsible integration of genetic services into the delivery of health care is concern about the needed infra-

structure: the systems to support and direct this integration. The development of policy, regulations, standards and fiscal provisions is necessary as the integration of clinical genetics proceeds. Establishing measures of safety, effectiveness, cost, utilization and impact will facilitate the sound monitoring that is warranted. The need for safeguards (e.g., informational control, nondiscrimination) cannot be over-emphasized as this expanding area of health care is embraced. Methods for evaluating the benefit to individuals of genetic services, compared to other health services, will be necessary to make responsible decisions about how to allocate resources. The expansion of genetic health care will carry enormous cost consequences.7 Health care professionals should engage in professional and public dialogue regarding genetic advances and advocate for the creation of systems that are non-discriminatory and equitably accessible.

Visioning Genetics for the Future

As never before, advances in genetic science and technology are interfacing with social, political, ethical, legal and economic issues. The challenge is to take advantage of the tremendous advances to date, and those projected for the future, in an ethically and socially responsible manner. Balancing the competing needs and goals of all those involved tests our creativity and morality. Such an endeavor will require the collaboration and commitment of health professionals, policy makers, consumers and the genetics community. Visioning genetics for the future and its integration

into the delivery of health care is not a static process, but requires responsiveness and flexibility. It necessitates predictive reflection (i.e., what will it be like?) and normative reflection (i.e., what should it be like?). The goal is a comprehensive, integrated and ethically sound approach to the provision of genetic services in health care, with adequate resources and a reliable and protective infrastructure. Health care professionals can provide significant leadership and take an active stance to ensure the quality of genetic health care.

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# The New Human Genetics: Ethical Issues and Implications for Public Policy

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he Human Genome Project represents an unprecedented enterprise: the largest and most concerted scientific effort in human history. The host of issues raised by the efforts and products of the project is formidable and presents new and grave challenges to current approaches to both ethics and public policy analysis. This paper briefly reviews major issues raised by the human genome project, with attention to those issues which are novel, and describes essential features of ethical public policy.

### **Issues**

Annas and Elias have proposed a three-tiered taxonomy to describe the major issues arising from the human genome project: first, individual/family issues; second, societal issues; and finally, issues related to species. I At the individual/family level, two major ethical issues are implicit in all of these sorts of tests: autonomy and confidentiality. Autonomy requires that all screening programs be voluntary and that consent is sought only after full disclosure of the implications of a positive finding has been made *and* understood. Confidentiality requires that the results not be made available to any third party without the individual's consent.

Yet in both employment and insurance settings, concerns arise out of the proliferation of available genetic screening. The historic view that genetic screening and testing is a private matter will continue to be challenged, as a variety of stakeholders with an interest — whether legitimate or not — seek access to this deeply personal information.

At the societal level, Annas and Elias have identified three areas of concern: population-based screening, resource allocation and commercialism, and eugenics. The final level described is

that of issues related to species — that powerful technologies alter not only what we can do, but the way in which we think about ourselves.

But are these issues raised by the Human Genome Project truly novel in any way? Victor McKusick and others argue that the "problems" are not qualitatively different from those arising from the everyday practice of clinical genetics, although they are greater in scope and significance. He identifies two generic risks: first that the information and products of the project will widen the gap between what we can diagnose and what we can do anything about; that is, what we can treat. And secondly, that the gap between what we really know and what we think we know will be widened.

# **Novel Issues**

I suggest that there may be novel issues which arise in two other ways. First, the role of autonomy as a central concept in ethics analysis and in legal remedies may become something of an endangered concept. Our modern traditions and North American cultures value the autonomy of the competent individual most highly. Respect for individual autonomy provides the foundation for the elements of informed consent in health care, in which full disclosure, understanding, and voluntariness are necessary conditions for informed consent to diagnosis and treatment.

These requirements for consent may become increasingly problematic, however. Full disclosure of the implications of testing or screening may be impossible, since we cannot yet anticipate outcomes where third parties may gain access to genetic information about us. Understanding is problematic because much genetic information is probabilistic rather than definitive, and not least because as consumers many of us have very little knowledge about the complexities of genetic science. Voluntariness is suspect in those circumstances where individuals may be required to undergo genetic testing or screening in order to attempt to gain assets and opportunities of great importance in our culture — such as health or life

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insurance, or employment in a downsized world economy.<sup>3</sup>

Further, the very nature of genetic information challenges the traditional conceptualization of autonomy. By definition, human genetics pertains to relatedness, rather than separateness. This is not a trivial observation. Although Annas and Elias have grouped individual and family issues in one piece, the impact of positive genetic testing or the assessment of a substantial risk for one member of a family has implications not only for that individual's life, but possibly for family members (in terms of their potential risk) and for the individual's relationship with other family members. We will need to re-examine the meaning and operationalization of the autonomy principle.

A second way in which the impact of the Human Genome Project may give rise to novel ethical and social challenges arises from the confluence of genomic and separately derived, but mutually operational technologies: the mutual impact of genomic with information and reproductive technologies.

The importance of the "information superhighway" is an ongoing subject of scrutiny by scholars, policy analysts, and the public, through media interest. The power of information transfer made possible through networks of computers, both research and personal, is not yet appreciated or fully understood by most of us. Already, there is far-reaching, extensive and intrusive market research through access to our credit card use and direct-purchase buying patterns, video rentals and vacation patterns. Consider the potential and the hazards of computer access to our personal genetic information by insurers, employers, government and others. The banking of genetic samples and computer banking of genetic information requires immediate attention in terms of protecting the privacy of individuals and families.

A second intersection of a separate technology with genomic technology lies in the area of human reproduction. Our ability to create human preimplantation embryos in the laboratory through techniques such as in vitro fertilization has given us a unique window on the very beginnings of individual human lives. It also permits a window of opportunity for very controversial interventions, such as preimplantation genetic diagnosis. Early human embryos can be biopsied (one or two cells are removed with no apparent detriment to the subsequent development of the embryo), and a variety of genetic tests can be performed by means of highly sensitive rapid

DNA amplification technology. Thus "prenatal" diagnosis may be performed before any pregnancy has been initiated. Several dozen such programs are already operational worldwide, and apparently healthy infants have been born after genetic testing by this means.<sup>5</sup> Even more troubling is the specter of genetic manipulation of human preimplantation embryos created in vitro. This is accomplished through the addition or deletion of genetic information.

Our challenge is to determine the appropriateness and efficacy of our current methods of ethics and policy reflection, and to amend these as necessary — in a timely fashion, in order to begin to address these complex and important concerns. The perceptions of patients, caregivers, families and analysts are in themselves valuable resources for our reflection — including, perhaps especially, our biases, if we can recognize them.

Troy Duster, a sociologist, has argued that the prism of heritability, the viewpoint by which we weigh the nature/nurture equation, is first a social matter.<sup>6</sup> He notes that the "what" questions, that is, the content of research questions, are posed by scientists, clinicians and others situated in particular social contexts of education, power, values and aspirations. That is to say, the "what" of the question is intimately tied to the "who" of the questioner.

# **Ethical Public Policy**

The framing of our debates is central. As Schattschneider states, "Defining alternatives defines conflicts, and defining conflicts defines the allocation of power." If the most vulnerable have no voice, their powerlessness increases. Framing dictates the sorts of policy solutions we will derive, yet we can go far in improving things by improving the *processes* of both our ethics and policy analyses. Ethical public policy requires the following:

- 1. Our analyses and policies must be relevant; this speaks to careful attention to framing of issues and the matter of "voice."
- 2. Managing the issues arising from human genomics requires a careful balancing of individual and collective interests. Both are extremely valuable but not unlimited, and the tension between the two must be judiciously traveled.
- 3. The technologies and possibilities of human genetics demand that we pay heed to the protection of the vulnerable. This again speaks to our framing of issues and attention to a variety of stakeholders.

4. Ethical public policy is also necessarily transparent. This suggests that the "who" and the "how" of deliberation, influence and analysis be open to wide scrutiny.

5. Finally, ethical public policy is accountable, and this feature necessitates all of the preceding

It seems self-evident that those who wield power in our society are responsible for its use. Ultimately, this needs to be an overarching guiding characteristic of our activities, if we are to meet the enormous challenge of human genomics and to share in its many potential benefits.

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# ETHICS AND HUMAN GENOME

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To the extent that insurance is a business, insurance companies will be duty bound to use genetic screening to exclude affected families from the insurance pool. But insofar as insurance is a communal, moral enterprise, the exclusion of the ill from the insurance pool is unacceptable. And, given genetic information and the medical costs associated with such illnesses, we must ask whether those affected with genetic diseases have a right to have children. This is a new moral problem presented to us by the development of genetic knowledge.

Knowledge usually has many ramifications and, as is so often the case, the technological generation of a problem may bring its own possible solution with it. We can discover not only whether potential parents are carriers for some disease, but also whether an unborn child is affected. This technology, along with safe abortion techniques, makes it possible for carriers of genetic diseases to bring to term only healthy children. This knowledge and this technology, therefore, has presented us with a new moral problem: what to do when it is known that an unborn child

has a severe genetic defect.

This novel moral problem is typical of those presented by the acquisition of information technology. There are no developed moral directions for such problems, for the problems never existed until recently. Whether our moral roots go deep enough for the resolution of such problems is an open question. What is quite clear, however, is that our most common method of solving moral questions, that of appeal to authority, is totally inadequate, for authoritative answers are those which have worked well in the past. Authoritative answers are simply not available for novel prob-

What scientific knowledge has done, and what the genome project will continue to do, is to present novel moral problems for which there are no traditional answers. We will have to discover and/or create our own moral directions and our own moral roots. This is a project we should look forward to with enthusiasm and not with trepidation.

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# Ethics and the Human Genome Project

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he human genome project is part of a scientific odyssey which began with the dawn of reason and has been pursued relentlessly and enthusiastically throughout all history. The odyssey has required the construction and destruction of numerous conceptual schemes and scientific theories, each of which has played its role for a brief period, only to give way to an enhanced and improved version as the human intellect progresses. This quest for an ever-increasing understanding of our world and our universe is at the heart of the scientific enterprise and is, perhaps, at the heart of what it is to be human.

This quest for scientific knowledge and understanding, this search for the novel, needs to be contrasted with the fear with which we approach new knowledge and new understanding in the areas of ethics and religion. In these areas, tradition rules and "fools rush in where angels fear to tread."

Today we live in an era of moral turmoil, in which many fear that we have lost our moral direction and our moral roots. But this fear is misdirected. We have lost neither our direction nor our roots, but we have cast ourselves into an environment in which the directions are not clear and our roots may lack the needed depth. The moral task with which we are confronted is to find our own direction and to enhance and develop our own roots. The reason for this is clear: ethics and religion must deal with the world as we know it, and as our knowledge of that world expands so must we expand our moral responses.

Although we have been developing scientific knowledge for centuries, the explosion of scientific knowledge is less than half a century old. Our previous moral directions have proven inadequate for this explosion of knowledge - yet it must be morally confronted through discussion in conferences and other arenas.

The moral challenge of scientific inquiry is serious indeed — so serious that there is one response which has become almost traditional: To learn more is to play God, so stop the inquiry now. This fear of knowledge is not unreasonable, since any knowledge can be used for good or for ill. Fire can be used for warmth or for burning, the club for protection or attack. The truth of the matter is that the human mind essentially searches. The search cannot be stopped without destroying the mind, and humanity without a mind is not humanity at all.

The moral search is as much a part of what it is to be human as is the search for other knowledge, and the moral challenge with which we are faced should be accepted as enthusiastically as any other search for knowledge.

But because of the acquisition of information and the development of expensive technology, the moral search has taken a new twist in recent years. To see one role of these two factors, we need only to consider the health insurance

Health insurance originated in a world in which there were only a few costly, treatable illnesses, and those illnesses, though they occurred randomly, struck very few people. Under these circumstances, one can purchase inexpensive insurance which protects one from the financial stress caused by being struck with such a disease. The likelihood of making a claim is minimal, the cost of insurance is small, and the potential gain is significant. Insurance pays.

The insurance industry today is in a state of near collapse, largely due to the increase in medical technology. There are so many costly treatments for diseases today that the price of insurance has skyrocketed. Genetic technology will

only increase this problem.

But genetic information is even more significant. We have been willing to insure one another against randomly occurring diseases, but randomness is a matter of knowledge. When genetic screening indicates that the children of a given couple are likely to have expensive medical problems, the question of whether that couple should have children becomes a public concern, since it is the public, through insurance or a public medical system, which will have to pay the bill.

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# Medical Ethics: The AMA's Leadership Role

Genetic testing. Assisted suicide. Rationing. Self-referral. Confidentiality. Health care today, because of an increasingly advanced technology and complex legal system, forces physicians to make decisions based on complicated clinical requirements and new moral assessments. The need for ethical guidance has never been greater.

Since its founding in 1847, the American Medical Association has maintained rigorous standards of ethical professional conduct to guide physicians in making patient care decisions.

Today, the AMA provides physicians with a code of ethics comprised of three integrated components: Principles of Medical Ethics, Current Opinions of the Council on Ethical and Judicial Affairs, and Reports of the Council on Ethical and Judicial Affairs.

The AMA's Code of Ethics: The code of ethics has guided physicians on a wide variety of ethical questions, and has often pioneered progress in ethical thought. In recent years, the AMA has issued pathbreaking opinions on physicians' obligation to treat patients with HIV and on the patient's right to refuse artificial life support when terminally ill.

The AMA's code of ethics has been recognized as an authoritative source of medical ethics by physicians, courts, legislatures and medical licensing boards. The AMA's opinions on specific ethical question are frequently cited in court decisions and Congressional debates. Your patients and the public in general rely on the AMA's code of ethics to identify the rights and responsibilities of patients and physicians.

Inspired by the Oath of Hippocrates, the *Principles of Medical Ethics* instruct the physician to provide

competent medical service with compassion and respect for human dignity. They direct the physician to expose colleagues who are deficient in character or competence and to seek changes in laws which are contrary to patients' best interests. They safeguard patient confidence and the pursuit and sharing of scientific knowledge with colleagues. Finally, they point out the physician's responsibility to contribute to an improved community.

Current Opinions elaborate on how ethical principles apply to today's medical practice. Issue categories include: physician's duties to patients, social policy issues, and interprofessional relationships. Currently, the AMA has issued more than 100 current opinions and reports on specific ethical questions.

Reports of the Council explain in greater detail why the AMA has taken positions on specific ethical issues in medicine. They give insight and practical guidelines or recommendations to help practicing physicians with their decisions. Reports cover 15 different topics ranging from conflict of interest to guidelines for institutional ethics committees.

In the coming year, the AMA will accelerate review and revision of *Current Opinions* and support adherence to them through organized medicine and state licensing boards; to increase their dissemination and make them as accessible as possible to all our members.

It is clearly evident that concerns about the nature of care, autonomy and justice are not far from the mind of patients, physicians and the courts. As technology expands, ethical dilemmas encompass new territories: fetal tissue transplants, genetic engineering and issues regarding the quality of life. As in the past, the AMA will continue to provide guidance on moral as well as medical aspects of your patients' health.

# Balloon Pulmonary Valvuloplasty for Isolated Pulmonary Valvular Stenosis

LEONE MATTIOLI, M.D.,\* JOHN M. BELMONT, Ph.D.,\* KENNETH GOERTZ, M.D.,\* ROBERT ARDINGER, JR., M.D.,\* Kansas City

solated pulmonary valvular stenosis (PVS) is identified at physical examination by its characteristic pulmonic systolic ejection murmur, frequently accompanied by an early systolic click, and sometimes a palpable thrill. PVS is diagnosed and graded according to the magnitude of the pressure gradient across the pulmonary valve, as measured directly by catheter or as calculated by Doppler echocardiography. Accepted criteria for PVS severity based on catheter gradient are: "trivial" < 25 mm Hg; "mild" 25-49; "moderate" 50-79; and "severe" ≥ 80.1

The natural and post-surgical histories of PVS are fairly clear. At diagnosis, about 10% of PVS patients under the age of 12 years show symptoms, which may include angina, fatigue, labored breathing and, rarely, syncope. Appearance of symptoms rises to 20% in older children, and at all ages symptoms increase with increasing PVS severity. Cyanosis occurs in about 40% of infants below age two years with moderate to severe PVS, in less than 10% at that age with trivial to mild PVS, and in less than 10% beyond that age, regardless of PVS severity. About 50% of infants with moderate to severe PVS will have congestive heart failure (CHF), which is a serious concern. Other age groups are at minimal risk for CHF, regardless of PVS severity.

Untreated PVS is rarely fatal except in its critical neonatal form. The clinician's chief long-term concerns are the hemodynamic effects of PVS (cardiac enlargement and right ventricular hypertrophy). The literature shows that at diagnosis, about 35% of patients with moderate to severe PVS will have cardiac enlargement, and about 60% will have right ventricular hypertrophy. For

trivial to mild PVS, the corresponding prevalences are 13% and 11%. <sup>1</sup>

Hypertrophy is especially important because it can lead to ischemia, dysrythmias and ventricular dysfunction.<sup>2</sup> Proper management of moderate to severe PVS aims to reduce hypertrophy by relieving the valvular obstruction. Until the 1980s the treatment of choice was surgical valvotomy, and long-term follow-up information is available only for this procedure. As compared with medical management alone, valvotomy has no clear longterm advantage with respect to the appearance of symptoms or cardiac enlargement. Concerning hypertrophy, however, surgery makes an important difference: Under medical management alone the prevalence of hypertrophy increases by 30% to 40% over the long term, while it decreases by 65% to 85% following surgery.<sup>1</sup>

Balloon pulmonary valvuloplasty (BPV) was introduced in 1982<sup>3</sup> as an alternative to valvotomy. BPV has become the preferred treatment because it yields immediate reductions of the gradient comparable to those obtained by surgery, <sup>4,5</sup> it is far less radical and less costly, and it apparently leads to less pulmonary valvular insufficiency and fewer ventricular dysrythmias, which were the principal undesirable side effects of valvotomy.<sup>5</sup> BPV is safe; our review of 29 series involving 1,780 BPVs reported between 1984 and 1993 shows significant early complications in only 1.5% of the cases (references supplied upon request).

Long-term follow-up results such as those available for surgical valvotomy are not yet available for BPV. Reports of intermediate-term BPV follow-up (approximately 5 years) show that restenosis, signified by recurrence of a significantly elevated gradient, has typically occurred in 14% to 33% of the cases<sup>6</sup> and may be more frequent in patients under age two years.<sup>7</sup> For the large majority of patients, however, the gradient reduction persists at follow-up and often shows spontaneous improvement beyond the immediate post-treatment level.<sup>5-8</sup> Here we describe retrospec-

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tively our BPV experience at the University of Kansas Children's Center.

# **Patients**

From June 1988 to May 1993 we performed BPV in 13 consecutive infants and children in whom isolated PVS had been diagnosed by Doppler echocardiography. Two of these patients required repeat BPVs, one because the first procedure failed to achieve a satisfactory gradient reduction, the other because of restenosis. Thus, 15 BPVs were performed. The children's ages at the time of their most recent BPV ranged from three days to 13.1 years (mean 5.7 years, SD 4.8, median 4.1).

# Methods

Data are reported here as mean  $\pm$  SD. The severity of PVS was confirmed by the last Doppler gradient obtained prior to BPV (pre-balloon Doppler). The interval between pre-balloon Doppler and BPV ranged from several hours to 4.23 months (0.74  $\pm$  1.20 months, median 1 day).

In the course of routine right heart catheterization, the systolic pressure difference across the pulmonary valve was measured and averaged over 10 beats (pre-balloon catheter gradient). Following placement of markers by right ventricular cineangiography, the stenotic pulmonary valve was dilated using commercially available balloon valvuloplasty catheters. Single balloons were used. The diameter of the fully dilated balloon was intended to be 1.2 times the measured diameter of the pulmonary valve annulus. The balloon was inflated until its waist had practically disappeared (figure 1 A, B). About 15 minutes following dilation, the systolic pressure gradient was again measured by catheter (post-balloon catheter gradient).

Follow-up residual gradients were evaluated by Doppler, the follow-up interval ranging from 0.61 to 4.70 years ( $2.29 \pm 1.18$ , median 2.11). The severity of pulmonary valvular insufficiency at follow-up was assessed by color flow mapping of the right ventricular outflow tract.

Differences between mean pressure gradients were tested using one- and two-tailed repeated-measures Student's t tests. Correlations were tested using two-tailed Pearson's r. Group differences and correlations were considered significant if p < .05.

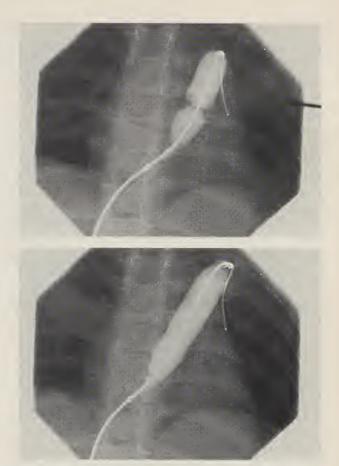


Figure 1. Selected cineangiographic frames of a balloon dilation catheter placed across the stenotic pulmonary valve. The waist outlining the stenotic valve during dilation (A) is practically abolished upon completion (B).

### Results

None of the 15 BPVs done on 13 children resulted in complications. For purposes of this follow-up report, we present data from only one BPV per child (the most recent, in cases of repeated BPVs).

Nine patients (69%) were hospitalized for one day, 3 (23%) for two days, and one (8%), a neonate, for seven days.

Figure 2 shows the distributions of individual patients' gradients at each stage from pre-balloon to follow up. Figure 2's indicated ranges of qualitative severity ("trivial" to "severe") refer to the accepted grading of PVS.<sup>1</sup>

Pre-balloon Doppler gradients ranged from 51 to 135 mm Hg ( $75 \pm 22$ , median 69). Nine were "moderate" and 4 "severe." Pre-balloon catheter gradients ranged from 40 to 160 mm Hg ( $73 \pm 33$ , median 64). The correlation between pre-balloon Doppler and pre-balloon catheter gradi-

ents was high (r = .90) and significant (p < .0001); the mean difference between the two measures was negligible (2 mm Hg) and non-significant (p = .64, NS). Thus, pre-balloon Doppler gradients provide highly accurate predictors of the intra-procedural catheter gradients.

Post-balloon catheter gradients ranged from 5 to 125 mm Hg (32  $\pm$  29, median 26). Their mean decrease from pre-balloon catheter levels was large (41 mm Hg) and highly significant (p < .0001). Follow-up Doppler gradients ranged from 13 to 49 mm Hg (25  $\pm$  9, median 23). The mean decrease from pre-balloon Doppler levels was likewise large (50 mm Hg) and highly significant (p < .0001). The additional improvement between post-balloon catheter and follow-up Doppler (7 mm Hg) was not significant (p = .22, NS), and the two measures were not correlated (r = -.02, NS).

Figure 2 (filled circles) shows the 11/13 patients (85%) for whom the procedure was immediately and durably successful, as judged by their gradients' being at or below 35 mm Hg (dashed line). Regarding the remaining two cases: Patient IH, whose gradients were the highest at diagnosis and pre-balloon, had a highly elevated post-balloon catheter gradient (boxed point: 125 mm Hg) that resulted from infundibular hypertrophy secondary to the valvular stenosis. IH was treated with propranolol and, as shown, presented a satisfactory "trivial" follow-up gradient (22 mm Hg). Similar observations and results of propranolol treatment have been reported previously. Patient RS, the only one for whom the procedure was performed because of prior restenosis, showed a satisfactory post-balloon residual gradient (30 mm Hg), but the follow-up (boxed point: 49 mm Hg) indicated she had again restenosed.

Pulmonary valvular insufficiency at follow up was absent or mild in 11 cases (85%), and moderate in the remaining 2 (15%). Insufficiency was not significantly correlated either with the size of the immediate post-balloon catheter-gradient reduction (r = .33, NS) or with follow-up Doppler gradient (r = .15, NS).

### Discussion

Previous studies have shown that Doppler gradients computed at the time of catheterization correlate almost perfectly with gradients that are measured directly via the catheter. We found here that Doppler gradients obtained up to 4 months prior to BPV are also highly correlated with, and very close to, the pre-balloon catheter

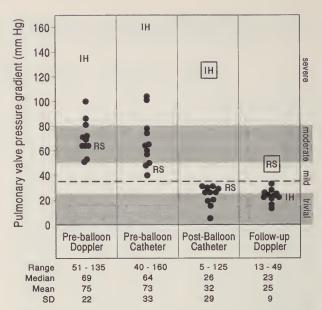


Figure 2. Distributions of pulmonary valve pressure gradients before catheterization (Doppler), immediately prior to and following balloon dilation (catheter), and at latest follow-up (Doppler) for 13 infants and children with isolated pulmonary valvular stenosis. Dashed line (35 mm Hg) indicates maximum "successful" post-dilation gradient. (•): 11 patients for whom the procedure was immediately and durably successful; (IH): patient whose immediate post-dilation gradient remained high because of secondary infundibular hypertrophy but was satisfactory at follow up; (RS): patient who showed satisfactory immediate gradient reduction but subsequently restenosed.

values. Since it provides an accurate, non-biased, non-invasive assessment of the severity of isolated PVS, Doppler echocardiography alone should be used for diagnosis and follow-up in this condition, with catheterization being used only to perform BPV.

Previous reports have indicated that children with severe valvular stenosis are at increased risk for restenosis following BPV.<sup>6,7</sup> Our results confirm that trend. Our only patient who required a repeat BPV for restenosis had "severe" PVS (Doppler gradient = 163 mm Hg) prior to her first BPV. It has also been shown that very young children are at increased risk for restenosis.<sup>7</sup> Our patient was one year of age at first BPV.

Table 1 shows that our pre-balloon and followup gradients were closely comparable to those reported in recent intermediate-term BPV followup studies. Our restenosis rate (8%) and lowgrade pulmonary valvular insufficiency rate (85%)

TABLE 1
PRE- AND POST-VALVULOPLASTY PULMONARY VALVE PRESSURE GRADIENTS\*

		Gradient (mm Hg)			
	Follow-up	P	re-balloon	F	ollow-up
	Period (yr)	Catheter		Doppler	
		N		N	
Present study	$2.3 \pm 1.2$	13	$73 \pm 33$	13	$25 \pm 9$
O'Connor et al. <sup>5</sup>	$5.3 \pm 0.3$	20	$76 \pm 22$	20	$24 \pm 12$
McCrindle & Kan <sup>7</sup>	$4.9 \pm 1.6$	46	$70 \pm 36$	42	$20 \pm 13$
Masura et al. <sup>8</sup>	$5.2 \pm 0.8$	34	$74 \pm 34$	34	$19 \pm 10$

<sup>\*</sup>Pre-balloon gradients measured by catheter, latest follow-up gradients computed by Doppler echocardiography, for patients treated for isolated pulmonary valvular stenosis: Present study compared with current literature. Figures shown are mean ± SD.

are consistent with the findings of others who have dealt with non-dysplastic isolated stenotic pulmonary valves,<sup>6,9</sup> and our complication rate (0%) is consistent with the overall literature (1.5%).

In conclusion, for 12/13 (92%) of our patients, the intermediate-term results of BPV were excellent. BPV effectively reduces the pressure gradient across the stenotic pulmonary valve. The immediate reduction is substantial, it persists for at least several years, and compared with surgical valvotomy it is associated with less pulmonary insufficiency and fewer ventricular dysrythmias. BPV is well tolerated, less traumatic to children and their parents, and less costly than surgery. Significant complications are rare, and failure and restenosis are infrequent and easily handled. We recommend BPV for patients with isolated PVS associated with a Doppler gradient ≥ 50 mm Hg at diagnosis. Following BPV, patients under age two years should be examined by Doppler every 6 months, and all others should be seen yearly.

**Summary** 

Fifteen balloon pulmonary valvuloplasties (BPVs) were performed on 13 infants and children with isolated pulmonary valvular stenosis (PVS). There were no complications. Two patients required repeat BPV, one for failure, the other for restenosis. At the time of the 13 latest BPVs, age ranged from three days to 13.1 years (mean  $5.7 \pm SD$ 4.8 years). Average Doppler pulmonary valve pressure gradient preceding BPV was 75 ± 22 mm Hg. At follow-up it was 25 ± 9 mm Hg (p < .0001). Follow-up interval was 0.61 to 4.70 years (2.29  $\pm$  1.18). Restenosis occurred in 1/ 13 (8%) of the patients. The remaining 12/13 (92%) showed highly satisfactory sustained gradient reductions. Doppler gradients preceding BPV by as much as 4 months correlated highly with

catheter gradients at time of BPV, confirming that Doppler echocardiography is a highly accurate indication of PVS severity. Catheterization for PVS should therefore not be used for diagnostic purposes alone. BPV can be performed safely, economically and effectively and is recommended as the treatment of choice for infants and children with moderate to severe isolated PVS. For very young patients, follow-up Doppler surveillance should be done semi-annually; for all others, annually.

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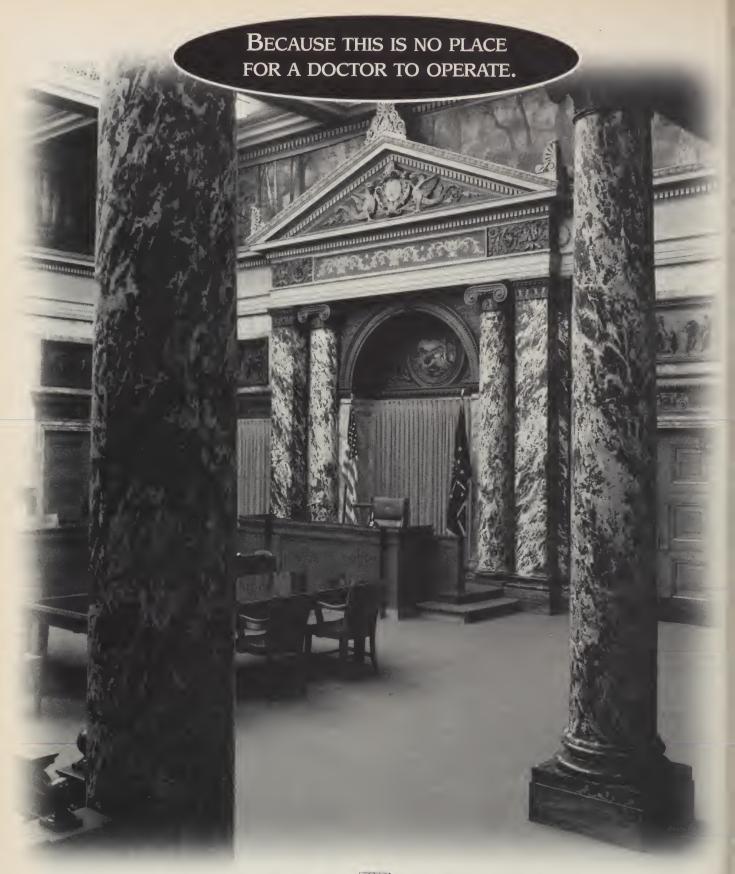
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# A Practical Introduction to Computers for the Physician: Computerizing the CME Record

RONALD B. DAVIS, M.D., \* Wichita

Automating (computerizing) a familiar and useful task is an efficient and confidence-building experience for the physician learning computer skills. We physicians need to catalog our CME credits, and there are numerous methods for doing this. One is the spreadsheet.

A spreadsheet can be a paper-based method or, as will be discussed here, a software implementation such as the popular Windows-based Microsoft Excel. The software approach provides flexibility and power. To begin, turn on the computer

and bring up Windows.

Using the mouse, select the group icon containing Excel and double-click on it. When the application icons appear, double-click on Excel. This brings up the program, and you are ready to start.

First, the spreadsheet should be given a name for saving to the hard disk and future reference for retrieval. Click on File at the top left portion of the screen, then click on Save As . . . Enter CME, then click OK. In Summary Info click on OK. This saves the *current* version of the spreadsheet (empty at this point). Save your program after all entries to ensure an accurate and up-to-date file.

Columns are vertical and labeled with letters, while rows are horizontal and labeled with numbers. The members of the grid are called cells. Move to cell A1 and start the title row. Enter "Category" then move down to cell A2 and enter "I." Then move right to cell B2 and enter "II." Move to the cell to the right, C2, and enter "Date." It is best if the cells are formatted for date. To do this, click on the column header C

(this will highlight the entire column). Click on Format, then Cells. Now choose Date in the left column and choose the first entry, m/d/y, in the right column. Then click on OK. This is important because it allows sorting of the entries by date, giving chronological listing of CME courses, even if they are entered in random order. "Program Title" will be the next column moving right one cell to D2. This cell needs to be wider to accommodate entries. To accomplish this, place the cursor at the border of the column labels D and E, click, and drag to the right until a reasonable width is obtained (you may double click and the width will automatically be adjusted to the longest entry). The next column will be titled Sponsor. In column E2 enter "Sponsor." Again, widen the column as above. F2 will be "Location." Now you have the title rows (1 and 2) completed.

To create the first entry, go to cell A3 if it is category I CME or to B3 if it is category II. Enter the number of credit hours. Move to the right to cell C3 and enter the date in m/d/y format. Move right one cell to enter the program title, move right again to enter the sponsor, and move right again to enter the location. To record additional CME activities, repeat the above entries on the next available row.

After several entries, you will want to sum columns for categories I and II. An easy way to do this is to put the cursor on the upper left cell for category I hours (A3), click and hold. While holding the left mouse button down, move to the right one cell and down to the level of the last entry. Continue to hold the mouse button down. To get a location for the sum, go down one row further. Now release the mouse button. To get the sum, move the pointer to the tool bar and click on  $\Sigma$ . You now have the column totals in the row below the last CME entry. Position the cursor in the cell in column C to the right of

<sup>\*</sup>Medical Director, Family MedCenter

Send correspondence to the author at 315 N. Hillside, Suite B, Wichita, Kansas 67214.

Cate	gory				
1	II	Date	Program Title	Sponsor	Location
3		1/25/95	Board Review Topics	Physician's Journal	Individual Study
4		2/15/95	Managed Care Update	Helpful Hospital	Hotel Inn, Yourtown, KS
	2	3/15/95	NSAIDs Indications	Hospital A	Hospital A, Smalltown, KS
1		4/3/95	Imaging Technologies	Hospital B	Hospital B, Bigtown, KS
2		4/13/95	Antibiotic Update	Friendly Hospital	Hometown, KS
10	2	Totals			

Your CME record should look something like this when completed.

the totals and enter "Totals." To enter additional CME, you will want to use this line for your next entry. Click on the row header to highlight the entire "Totals" row, then press the delete key on the keyboard. This will allow for more entries, and a new "Totals" row can be created by the same method as above.

You will want to print your spreadsheet. Use the File on the menu at the top left. Point to File and click, then click on Print. This accesses the Print dialog box. Click on Page Setup. Several functions are available by tabs. First, go to Page, the first of four tabs, where you will see the choice of portrait (8" x 11") and landscape (11" x 8"). If the spreadsheet is wide, landscape format would be most likely to present the entire width on one page. Otherwise, portrait will be satisfactory. Print Preview will reveal this, as will be explained later. Now click on the Header/Footer tab. Click on Custom Header and then click se-

quentially on each text in Left Section, Center Section, and Right Section. The example shows name, CME Record, and dates covered. Then click OK. Click on Custom Footer, highlight the text, push delete then click OK. Click OK again to bring up the Print dialog box.

You may wish to click on Print Preview to see your document before printing. Return to the Print function (if you went to Print Preview you will have to click on File, then click on Print) and click OK. This will print your CME Record. Be sure to save your spreadsheet by clicking on the disk icon located on the toolbar.

This exercise will give you an introduction to the use of software spreadsheets. As you maintain your CME record, you may find additional uses for the spreadsheet and expand your expertise with this software application. It will also help you develop expertise that can be carried to other software applications.

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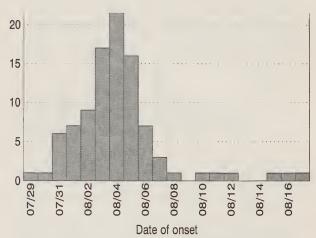
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# A Swimming-Pool-Associated Outbreak of Cryptosporidiosis

ryptosporidiosis was first recognized as a human illness in 1976. It has since been identified as the causative agent in a number of outbreaks, including one affecting over 400,000 people in Milwaukee in 1993. Infection occurs with person-to-person, animal-to-person, or waterborne transmission of the oocysts via the fecal-oral route. Symptoms usually include watery diarrhea and abdominal cramps but can also include nausea, vomiting, fever or anorexia. Symptoms among persons with cryptosporidiosis may be intermittent, but they usually resolve in less than 30 days. Infection may also be asymptomatic.

The Missouri, Iowa and Kansas departments of health jointly investigated an outbreak of diarrheal illness among Missouri, Iowa and Kansas residents who were participants in a girls' softball tournament in Missouri. A case was defined as: 1) an individual who attended the softball tournament on the weekend of July 29-31 and either stayed at a motel referred to here as Motel X or swam in the motel's pool, or who was a family contact of an attendee; and 2) had either a stool sample which tested positive for *Cryptosporidium or* reported having diarrhea on or after July 29th and being ill for at least 2 days.

One hundred and one of 186 individuals surveyed met the case definition, for an overall attack rate of 54%. The median age among the cases was 10 years, while the median age for the non-cases was 34. Seventy (69%) of the cases and 54 (64%) of the non-cases were female. Ninety-four (94%) of the cases reported diarrhea, 78 (80%) reported abdominal cramps, 66 (68%) reported nausea, 55 (56%) reported vomiting and 38 (40%) reported fever. Twenty-six (57%) of 46 stool samples tested positive for Cryptosporidium. The dates of onset ranged from July 29 to August 17, with most cases occurring on August 4 (see figure). All six case-patients with onset dates on or after August 10th were household contacts of cases with an earlier onset date. This suggested that secondary transmission between household contacts may



Onset of illness for Cryptosporidium outbreak: Missouri, July 1994.

have occurred. Incubation time, as measured from time of first exposure to the swimming pool until time of onset, ranged from 0.7 to 7.6 days, with a median of 5.4 days. Symptoms lasted from 1 to 38 days, with a median of 4 days.

Eating at Motel X was found not to be a risk factor for illness. The attack rate among those eating and not eating at Motel X at any time during the weekend was 55% (40/73) and 54% (61/113), respectively. The relative risk was 1.0 (95% confidence interval = 0.8, 1.3) and remained virtually unchanged after controlling for pool exposure, suggesting that those eating at Motel X were no more likely to be ill than those not eating at Motel X.

Swimming in the pool at Motel X was considered to be the common source of infection. The attack rate among those swimming in the pool at Motel X was 74% (89/121), while the attack rate among those not reporting pool exposure was 19% (10/52). Swimmers were almost 4 times more likely to be ill than non-swimmers (Relative Risk = 3.8, 95% confidence interval = 2.2, 6.7). Pool exposure accounted for 90% of the cases.

During the investigation, individuals complained that the pool appeared dirty and had a peculiar odor, and that contact with the water caused a burning sensation of the eyes. Inspection of the pool revealed that the filter was malfunctioning and that manual chlorination had not

Reported by: L. Wilberschied, M.S., Epidemiology Section, Bureau of Disease Control, Kansas Department of Health and Environment.

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been performed. Following the inspection, the pool was closed until hyperchlorination was completed. Tests done on water and sand filter samples collected after hyperchlorination were negative for *Cryptosporidium*.

Cryptosporidium is highly resistant to chlorine and, because of the small size of the oocysts (4 microns or less), may not be completely removed by standard pool filters. Therefore, to avoid infecting others, individuals should be discouraged from using swimming pools or hot-tubs while they have diarrhea. This is particularly important for non-toilet-trained children. In order to prevent the person-to-person transmission of *Crypto*sporidium oocysts, careful personal hygiene should be encouraged (i.e., frequent and thorough handwashing.) This is especially true for anyone with diarrhea or anyone caring for someone with diarrhea. Physicians seeing a patient with a Cryptosporidium-compatible illness should specifically request to have stool samples tested for Cryptosporidium, enteric bacteria and other ova and parasites.

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# HIV Survey of Childbearing Women in Kansas, 1992-1994

any infants of HIV-infected mothers have antibodies to the AIDS virus at birth. Often the presence of antibodies does not reflect infection in the infant; the antibodies are passively acquired from the mother in the uterus and reflect the mother's HIV status. In an effort to monitor HIV infection rates in women of childbearing age, many states, including Kansas, have started testing the blood of all live newborns for antibodies to the AIDS virus. In 1990 the Kansas Department of Health and Environment (KDHE) AIDS Section started the Survey of Childbearing Women (SCBW). At birth, blood is taken from all live newborns. After testing for certain metabolic disorders and hemoglobulinopathies, all personal identifiers are removed from the samples and they are forwarded for HIV testing.

KDHE analyzed the data from the SCBW for 1992-1994. There were 99,367 live births in Kansas between 1992 and 1994, the majority being whites, followed by blacks, Hispanics, Asians or Pacific Islanders, and Native Americans or Alaskan Natives (figure 1). Most of the mothers were between the ages of 20 and 29 years (figure 1). Of the 99,376 samples submitted for testing, 96,857 (97.5%) were negative on the enzyme immunoassay (EIA), 197 (0.2%) were positive, and 2,313 (2.3%) were not tested because the specimens were unsatisfactory. One hundred ninetysix EIA positive specimens were submitted for confirmation by Western Blot. Of these, 19 (9.7%) were positive, 117 (59.7%) were negative, and 60 (30.6%) were indeterminate (figure 2). This means that 0.02% of newborns had antibodies to the AIDS virus at birth. Between 1991 and 1992, Kansas (along with four other states with a prevalence of 0.03%) ranked twenty-third out of 45 states in HIV seropositivity among newborns.1

The number of newborns with antibodies to the AIDS virus at birth was constant between 1992 and 1993, then decreased in 1994 (figure 3). HIV seropositivity in the newborns over all



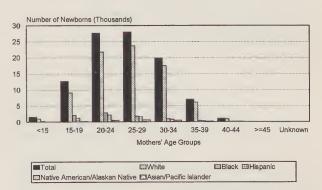


Figure 1. Total number of live births by mothers' race/ethnicity and age: Kansas, 1992-94.

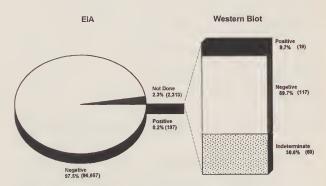


Figure 2. HIV test results: Kansas, 1992-94.

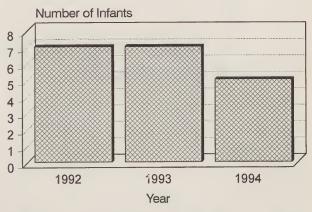


Figure 3. Number of HIV-positive infants by year of birth.

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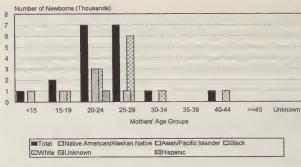


Figure 4. Number of HIV-positive infants by mothers' race/ethnicity and age: Kansas, 1992-94.

three years peaked for mothers aged 20 to 29 years, then declined with increasing age (figure 4). There were 12 white, six black, and one Hispanic HIV seropositive infants born between 1992 and 1994; no HIV seropositive infants were born to Asian, Pacific Islander, Native American or Alaskan Native mothers. In 1992 seropositive infants were born to mothers younger than 20 years. By 1993 and 1994, mothers below 20 years of age did not have seropositive infants.

Both the majority of births and higher rates of seropositivity occurred in the eastern half of the state. The data indicate that the percentage of HIV-seropositive newborns in Kansas is very low. The low seroprevalence in newborns implies that there is a low prevalence of HIV infection among women of childbearing age in Kansas. This is further supported by the AIDS surveillance data, which show that most of the AIDS cases reported are from men. An ongoing survey of HIV infection in women of childbearing age is valuable, as it allows us to monitor the trend of HIV infection in this age group of women. In addition, data gained from the survey can be used to estimate the total HIV prevalence in the state.

Given the low prevalence of HIV infection among women of childbearing age in Kansas, any future HIV screening efforts among pregnant women would best be targeted at high-risk women.

#### REFERENCE

1. National HIV serosurveillance summary results through 1992 (US Department of Health and Human Services, Public Health Service Centers for Disease Control and Prevention), vol. 3.

## Facing the Future Together: Dr. Warren's Installation Address

am truly honored to serve as your president. This year is forecasted to be one of great challenges and great change. There will be some changes that none of us can yet perceive, because so much change in medicine these days is caused by external forces



and not those within our own organizations. This is why, as I indicated last evening at the installation, we must look within our organization, within each one of us, for innovative ways to solve problems. We must create new systems of organization and communication, so that we can respond to change and challenges in a unified manner, in order to best provide our patients with the same quality of care that they have grown to expect over the generations from Kansas physicians. The means of access to care may be different, the method of reimbursement may be different, the avenues of referral may be different but what should absolutely not be different is our relationship with and quality of care of our patients: the doctor-patient relationship. That is the essence of Kansas medicine, and we must pre-

I see the "personality" of the Kansas Medical Society to be multifaceted: city specialist, city generalist, rural generalist, private practitioner, HMO member, academic physician, ER physician, hospital-based physician, KMS staff members, KMS lobbyists, male physicians, female physicians, minority physicians, white physicians, foreign-trained physicians, young physicians, old physicians, students, residents, fellows, medical directors of insurance companies, KFMC-employed physicians. But all have in common the face of a Kansas physician or KMS staff member working to help the Kansas physician. And it is the way we choose to work with each other to maintain the personality strengths that will give the product we offer to our patients and fellow members greater depth, greater quality — because of the uniqueness of all the members who make up the whole.

I have a few ideas about ways we can attain this goal, and I would like more ideas from the rest

of you — because you are this organization.

The staff and I have discussed the creation of an inter-specialty council. The concept is that this council would meet twice a year to discuss common problems and issues, and also to discuss areas of discord so as to (we hope) not allow our organization to be splintered and destroyed by differences which could be lessened by communication and understanding.

Because of the large geographical size of our state, there are many who rightfully have felt out of the loop. We are considering presenting to the Executive Committee the concept of a pilot project to address this issue. This would be, as an experimental project, to establish a satellite office in western Kansas to provide a link between the western part of the state with the central office. This would be a local KMS link for the physicians in that area. It could assist the physicians in coordinating meetings, collecting dues, helping to provide speakers, etc. It could also share space with Heartland Health and KaMMCO to decrease costs — but the essence would be to give KMS a local presence so as to truly assist the physicians. If this pilot project is a success, it could be expanded to other areas in the future.

To further involve more physicians, we plan to have a task force to increase membership and involvement. This task force will be made up of the groups which have traditionally been underrepresented: women, minorities, foreign medical graduates, academics and young physicians. For this fall, we plan a single-day conference on women in medicine, with a guest speaker.

I was quite pleased with the sentiment and concern of KU's new chancellor, Dr. Hemenway, when several of us met with him last month to discuss KUMC and the physicians in the state. He was concerned that many felt that communications had broken down over the years with KUMC. He was concerned that physicians throughout the state no longer feel much of a bond with KU. He was interested in working with us to rectify that. He also was interested in offers made by KMS to assist KU legislatively with some of their needs through our representation and credibility in Topeka. We hope that this inter-

est will be able to be transformed into an improved working relationship with KUMC and into involvement of KU's physicians in the activities of our society.

Young physician recruitment will be a high priority, as will students and residents. I firmly believe that if we can foster early involvement in organized medicine in a medical career, it will continue through a lifetime of practice.

Educational programs will be ongoing to meet the changes of this year. As an example: Carolyn Price will be doing documentation workshops almost immediately around the state to help us meet the August 1 deadline, when Medicare will begin asking for repayment for inadequate documentation for overcoding by their standards. Carolyn is an absolute encyclopedia of federal regulations and knowing how to do it right. Please listen to her, use her expertise, and follow her advice. KMS, with Gary Caruthers' leadership, has been working with the KHA to do rural managed care workshops. This is another example of how we will be meeting the needs of our Kansas physicians.

Our legislative battles will continue and magnify. There is no way to overemphasize the problems of everyone wanting to practice medicine. Chiropractors want to engage in pediatrics, nurse practitioners want to prescribe drugs and practice medicine independently, pharmacists want to engage in internal medicine, podiatrists want to administer general anesthesia and amputate feet, counselors want to diagnose and treat mental illnesses, and lay midwives want to practice obstetrics. As Jerry, Chip and Jimmie say, the groups are starting to coalesce — all those that want a part of the practice of medicine — and they see us as the enemy. Battling one at a time is one thing, but all together is another issue. We need help from all of you. The Reference Committee has started the ball rolling with their wise recommendation to adopt Substitute Resolution 95-2, Task Force on Practice Issues [subsequently passed by the House and published elsewhere in this issue — Editor]. We will keep you informed, and we ask for your involvement and aid at the local level. We *must* have successful political actions, and our success rests on three factors:

- 1. Money for election and re-election of our political friends. This comes through your efforts: money given personally to your political friends, and money given collectively through KaMPAC are both basic and essential.
- 2. Personal and collective integrity. We cannot be represented as professional and altruistic unless we *are* professional and altruistic.
- 3. Professional political representation of unquestioned integrity. Our lobbyists, Jerry and Chip, are superb and have this integrity.

Of the three, only the last can be delegated. The first and second depend on us and are our personal and collective responsibility.

Heartland Health is entering another phase as its leadership is working to bring providers contracts, sign up hospitals and then market the network. There will be many changes as Heartland enters our lives. For the metropolitan physicians it should be a welcome change to work with a physician-directed program, in contrast to the others they deal with. To rural physicians, it will be a change, and a threatening one, to deal with managed care. But what better way than to deal with it with our friends and partners of past years. I will aid the Heartland staff any way they desire to make this a success.

Yes, it is a year of challenge, of change — but what potential! The potential to make our organization even stronger because of the need to work together successfully to preserve the integrity, joy and satisfaction of the practice of medicine. And we will succeed because, as the theme of last night's program stated, we will be facing the future together.

Linds Warren, MD

## Target Tomorrow—Today

Lisa Barker was installed as the KMS Alliance President at the Annual Meeting in Overland Park in May. Following is her address, in which she outlines the Alliance's focuses for the year.

he theme I have chosen for the alliance this year is "Target Tomorrow—Today." The future of medicine is a concern to all of us. We can't begin to know what that future is, but we do know we cannot sit idly by today and wait for tomorrow. The



Kansas Medical Society Alliance will target four areas that we feel are important to the future.

We will target legislative issues today for medicine tomorrow. I cringe when I hear the term "health care reform." My daughter, Brooke, had a bone-marrow transplant four years ago and a bilateral lung transplant two and a half years ago at two of the finest hospitals in the country. She is living proof that health care in the United States is the best in the world. However, our health care system does need to be reformed.

Stan and I, throughout our many hospital stays in five different states, have befriended many people who have become prisoners in the health care system. People who have had to give up custody of their two-year-old terminally ill little boy to the State of Kansas because their bills went over the \$1 million limit of their insurance. People who have been forced into divorce so their sick child would qualify for state health aid. People who have to beg their communities to help them financially so their children can get needed health care that insurance companies deemed "too experimental." Situations like these are all too common. These are not medical problems; they are problems created by the health care system.

The Kansas Medical Society Alliance will work alongside the medical society to help keep health care in Kansas at its best, and to help reform the system. We will work as a team on issues such as malpractice reform, access to health care and violence against women and children. In February we will once again convene in Topeka to let our legislators know that we are aware of the issues and that we care about medicine in Kansas. We will urge more counties to start mini-internships through their medical societies and alliances, and

we will keep our communication lines open and will continue corresponding one-on-one with our state representatives.

The alliance will target the American Medical Association-Education and Research Foundation to help continue quality medical education in the future. If you were at the AMA-ERF benefit during the KMS Annual Meeting, you heard a story from a medical student about how the funds have helped support him through hard times. These are the stories that keep the alliance working so hard for our students in Kansas.

The total funds raised this year by the KMS Alliance for AMA-ERF were \$27,666. Of that amount, \$7,989 was raised at the auction here in Overland Park. We thank you all for helping us make our goal for this year, and I pledge that the alliance will once again make this goal and, we hope, surpass it. With your continued support we can truly make a difference for tomorrow's doctors, today.

Our health projects will help all Kansans tomorrow through the work we do today. Organ and bone-marrow donation will be a major emphasis of the KMS Alliance this year. This is an important project to me because transplantation has greatly affected my family.

The alliance will encourage all eligible physicians and spouses in Kansas to have a donor card. If our medical families are not advocates of organ and bone marrow donation, who will be? My son Ross was nine years old when he donated bone marrow to Brooke. At his young age, he realized the importance of his donation. I know Kansas medical families also realize this importance. Transplantation is medicine's miracle procedure. Physicians must educate patients and encourage the public to become bone marrow donors today and organ donors tomorrow. The gift of an organ is the greatest gift anyone can give or receive, and believe me, you never forget the person who sacrificed for you. One of my favorite sayings is, "Don't take your organs to Heaven. Heaven knows we need them here."

Another health project this year is the preven-



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tion of violence. Today, many feel violence is the major health concern in America. Many young people are dying from gang and street violence. More women and children are dying or requiring medical treatment due to violence than any other one disease. We must target violence today for our children's tomorrow.

The AMAA introduced a program at the national meeting entitled SAVE Today. SAVE stands for Stop America's Violence Everywhere. This program is designed to unite alliances all over America in one common cause. SAVE Today will be observed on October 11 this year and the second Wednesday of October thereafter. Our county alliances and auxiliaries will be asked to have a program in their schools or communities to help with violence awareness. In October, in Topeka, the KMS Alliance will once again help sponsor the Governor's Conference on Child Abuse. SAVE Today is an exciting program and with alliances unifying toward the goal of violence awareness, we will be heard today and will make a difference for tomorrow.

The alliance will target a changing membership. Our organization must look ahead and change today to meet our members' needs for tomorrow. Today, more than at any time in the alliance's history, we have a diverse membership. The majority of our members juggle careers or extensive community work with raising a family and keeping a home. Our alliance is striving to keep the traditions of the past intact while responding to the changing needs of our membership. Our direction will be more goal-oriented and time-efficient. Our board meetings will be streamlined to accommodate employed spouses and parents of young children, without losing our educational and interactive traditions.

We must get the word out to physicians and spouses that the KMS Alliance's programs are an important part of their community, state and nation. We are people with common goals: to better our communities through our health projects, to better our medical schools through AMA-ERF, and to better social causes through legislative efforts. We must all work on membership to achieve our goals.

I look forward to working closely with Dr. Warren and the medical society this year, and I am honored to be the President of the Kansas Medical Society Alliance. Thank you.

Gisa Barker

# Official Proceedings of the 1995 KMS House of Delegates

Kansas Medical Society and the Kansas Medical Society Alliance met for a joint opening ceremony for their respective annual meetings at the Doubletree Hotel, Overland Park, Kansas. Speaker of the KMS House D.W. Bell, M.D., introduced a U.S. Marines color guard, who presented the colors for the pledge of allegiance. Dr. Bell introduced Cranston Cederlind, M.D., Chairman of the Annual Meeting Planning Committee, who welcomed the delegates and guests to Overland Park on behalf of the host society, Johnson County, and urged everyone to attend the AMA-ERF Auction that evening.

The Speaker recognized Joseph C. Meek, Jr., M.D., who thanked the hosts of the Thursday homes tour and luncheon for their hospitality.

KMSA President Nancy Craig introduced a special guest, the President-Elect of the AMA Alliance, Sandra Mitchell, Kansas City, Missouri. Mrs. Mitchell praised the joint opening ceremony, citing it as symbolic of the cooperation of physicians and spouses working together. She outlined several projects of the national organization that address their anti-violence initiative. One is a new book for children that teaches conflict resolution. Mrs. Mitchell described the Alliance's new SAVE (Stop America's Violence Everywhere) program, which will soon be publicized with a large rally in Chicago. The Alliance is working to end violence against children, spouses and the elderly. "Who better to address this problem than physicians and their spouses?" she asked. On behalf of the more than 60,000 AMA Alliance members, she thanked Kansas physicians for all they do to help.

Mrs. Craig addressed the assembly, noting that since she is from a medical family she would use a familiar tool to describe the KMSA: a medical record. She presented a profile of a healthy "patient." Age: 70. Date of birth: 1925. Occupation: Improving the health of all Kansans. Summary of activities during the past year: A focus on AMA-ERF fund-raising. Conclusion: The patient is in excellent health. Mrs. Craig added a personal note, thanking everyone for support throughout the year.

KMS President Donald R. Brada, M.D., introduced AMA Trustee Palma (Pam) Formica, M.D., of New Jersey. Noting that she would be in attendance all weekend, he encouraged everyone to take the opportunity to visit with her.

Dr. Formica told the delegation that she was particularly glad to be back in Kansas for the installation of KMS' first woman president. On behalf of the AMA, she conveyed greetings and thanks to the Alliance. Dr. Formica said that when she heard about Heartland Health on her last visit to Kansas, she was skeptical and has been "amazed" at its success. She congratulated the Kansas Medical Society for its leadership role in health care reform. This, she said, "puts the society on the cutting edge" of medicine. Dr. Formica presented a stewardship report on behalf of the AMA Trustees, whom she characterized as providing servant leadership: "We on the board are your servants." Following a recent study of its operations, the AMA is consolidating so it can offer better service. AMA Television was sold. The AMA is now examining the component system to determine what discourages non-members from joining. There will be a report on this subject at the Annual Meeting in June.

"We must be more sensitive to the needs of our constituents," Dr. Formica declared, adding that trustees are available for visits, if desired. A young physician (under 40) will be added to the board this year, and the board is becoming more diverse overall. The AMA is working closely with the HMSS, and their new Orion Project will take representatives to rural hospitals to offer assistance. Dr. Formica reported that there will be no AMA dues increase this year.

Current public initiatives include anti-violence, anti-smoking, and AIDS education.

Finally, Dr. Formica reported that AMA Executive Vice President James Todd, M.D., is retiring next year. A search is beginning for his successor, and nominations are welcome.

The Speaker invited Dr. Brada to give the President's report. Dr. Brada noted that it had been one year since he had been entrusted with this responsibility. Now that it was almost over, he felt both glad and sad. He thanked his wife, Kay,

for her advice and companionship. The KMS presidency, he said, is much like a sailing ship. To win the race, one must have a sound, stable, fast ship. The crew (staff and officers) must work together as a team. Dr. Brada reviewed the highlights of the past year. He had taken gratifying trips to 17 council districts, accompanied at various times by Jerry Slaughter, Chip Wheelen, Carolyn Price and Allison Peterson. Some trips took him to places he hadn't seen before. He regretted he could not visit all the physicians in the state. A major accomplishment was the passage last year, after heated discussion, of Resolution 94-15, which authorized Heartland Health. A great amount of time and effort to implement the network followed. Dr. Brada called for applause to recognize the efforts of Jerry Slaughter. The regular business of the medical society went on, Dr. Brada noted, despite the efforts of starting Heartland Health.

The future is difficult to predict, Dr. Brada observed. Heartland Health is a success, but it is still in its infancy. The real test is still to come. How, he asked, will we deal with the hard issues,

such as policing ourselves? Efficiency is called for, balanced with good patient care. What role will we play in the growth of "mega-organizations?" Will we be mere providers, or will we assert ourselves to insist on what our role should be? In this regard, the county societies "need to get their heads out of the sand." The strength of physicians' organizations, Dr. Brada said, relates to their success in changing the health care arena. These organizations should be the county societies.

Heartland Health and KaMMCO can help to keep the state society viable, and the AMA "can and does represent all of us." We need to put our efforts into the AMA to find solutions, Dr. Brada observed. Stewardship has been one of his themes this year. "We are stewards of health care to make sure it works for our patients," he said. We must have a willingness to be accountable, and to prepare the next generation for the transfer of responsibility to them. Finally, he thanked the members for the opportunity to serve as their president.

The Speaker encouraged the delegates to visit

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the vendors' booths in the hallway outside when leaving the room. She announced that the first House of Delegates would convene in a few minutes.

#### **FIRST SESSION**

Speaker of the House D. W. Bell, M.D., called the first session of the 136th KMS House of Delegates to order at 9:19 a.m. and introduced the Vice Speaker, Robert Barnett, M.D. Dr. Bell explained the composition of the house, outlined the rules and procedures that would be followed, and noted that Davis' Rules of Order would be followed during the meeting. Only delegates would be recognized and allowed to vote. All others should convey their opinions to their delegates. Dr. Bell announced that the Reference Committee would meet immediately following the first session. The presence of a quorum was announced, and the minutes of the 1994 House of Delegates, published in the June 1994 issue of KANSAS MEDICINE, were approved.

Dr. Brada outlined the procedure to be followed for the primary election, if it were necessary to conduct one. He read the slate:

President Elect: David K. Ross, M.D., Arkansas City First Vice President: Joseph T. Philipp, M.D., Manhattan Second Vice President: Jimmie Browning, M.D., Clay Cen-

ter; Cranston Cederlind, M.D., Shawnee Mission Constitutional Secretary: Craig Concannon, M.D., Beloit Treasurer: Anne (Katie) Rhoads, M.D., Olathe; Howard

Wilcox, Jr., M.D., Hays
Speaker: Dee W. Bell, M.D., Shawnee Mission
Vice Speaker: Robert Barnett, M.D., Topeka
AMA Delegate: Jimmie A. Gleason, M.D., Topeka
AMA Delegate: Linda D. Warren, M.D., Hanover
AMA Alternate Delegate: Terry Poling, M.D., Wichita
AMA Alternate Delegate: Joseph C. Meek, Jr., M.D.,
Wichita

There were no nominations from the floor. Since there were no more than two candidates for any one office, it was not necessary to hold a primary election. The election will be held during the second session.

Dr. Barnett called for committee reports, announcing that some were submitted as written reports and placed in the delegates' notebooks.

Treasurer — Jimmie Browning, M.D.

This report is included in the delegates' notebooks.

## Constitutional Secretary — Craig Concannon, M.D.

Membership						
	April 26 1995	End	Year- End 1993	End		
ACTIVE	2429	2347	2248	2215		
ACTIVE 2ND YEAR	66	87	77	63		
ACTIVE 1ST YEAR	83	40	35	8		
PROBATIONARY	74	60	57	89		
RESIDENT	283	82	279	86		
STUDENT	341	344	223	315		
ASSOCIATE	49	49	44	43		
PERSONAL EXEMPT	27	11	8	8		
RETIRED	521	510	507	491		
MILITARY SERVICE	0	0	1	1		
MILITARY EXEMPT	0	0	1	1		
EMERITUS	55	52	55	57		
HONORARY	2	2	2	1		
SEMI-RETIRED	5	3	2	0		
OSTEOPATHIC ASSOC.	60	17	0	0		
TOTALS	3995	3804	3539	3598		

Kansas Medical Society

Necrology — Warren E. Meyer, M.D.

Dr. Meyer requested a moment of silent remembrance following the reading of the names:

Name and City	Age	Date of Death
Winstan L. Anderson, M.D.,		Devivis
Sun City W., AZ	85	7/15/94
· · · · · · · · · · · · · · · · · · ·	82	10/17/94
Raymond J. Beal, M.D., Fredonia	92	
Floyd C. Beelman, M.D., Topeka	83	11/8/94
Harry J. Bowen, M.D., Topeka		10/12/94
C. Everett Brown, M.D., Fort Worth, TX	84	8/25/94
Bernard A. Brungardt, M.D., Salina	73	1/19/95
Emery C. Bryan, M.D., Erie	89	1/29/94
Ralph E. Bula, M.D., Hays	82	8/1/94
Clair J. Cavanaugh, M.D., Great Bend	71	12/26/94
Alexander R. Chalian, M.D., Kansas City	91	12/12/94
Thomas J. Coleman, M.D., Wichita	76	9/24/94
Ralph Lafayette Drake, M.D., Wichita	94	9/22/94
Clarence Leroy Francisco, M.D., Leawood	84	7/29/94
Frederick A. Gans, M.D., Salina	72	9/19/94
Raymond F. Gard, M.D., Redding, CA	91	11/2/92
George Franklin Gsell, M.D., Wichita	86	5/20/94
Francis J. Hagan, M.D., Wichita	79	3/17/93
Thomas H. Hays, M.D., Wichita	45	7/7/94
Alfred H. Hinshaw, M.D., Wichita	86	4/29/94
John B. Jarrott, M.D., Hutchinson	77	7/14/94
Rodger S. Kirkegaard, M.D., Topeka	64	12/17/94
Kenneth McLain, M.D., Ransom	73	4/18/95
Ira R. Morrison, M.D., Atchison	85	3/5/93
Malcolm C. Murfitt, M.D., Lindsborg	81	10/19/94
Fredrik Furman Nyberg, M.D., Towanda	71	12/30/93
Marvin Miles Palmer, M.D., Leavenworth	49	11/18/94
	70	5/31/94
Kenneth Dean Powers, M.D., Wichita	63	
Maurice F. Priddy, D.O., Junction City	57	7/24/94 9/2/94
Ralph G. Robinson, M.D., Kansas City	3/	7/2/94

Jack L. Ross, M.D., Topeka	62	4/17/95
George M. Sabin, Jr., M.D., Wichita		2/17/95
Daniel K. Roberts, M.D., Wichita		6/23/94
Leland N. Speer, M.D., Kansas City	82	12/1/94
Charles Raymond Svoboda, M.D.,		
Chapman	75	5/27/94
William Tarnower, M.D., Topeka	73	8/31/94
Ernest J. Ubelaker, M.D., South Haven		11/16/94
Nathaniel Uhr, M.D., Topeka	94	10/10/94
Stanley Leroy Vander Velde, M.D.,		
Emporia	77	1/22/94
Clarence N. ("Jack") Waters, M.D.,		
Salina	81	4/21/95

## Editorial Board — Warren E. Meyer, M.D.

At the last meeting of the Kansas Medical Society House of Delegates, Resolution 94-16 was passed. This instructed the Executive Committee, in consultation with the Editorial Board of KANSAS MEDICINE, to develop a new format for the journal that would maintain the scientific content while adding more news, socioeconomic stories and practice-related features. The changes were to be initiated in January 1995.

As a result of frank and open discussions, the decision was made to publish KANSAS MEDICINE quarterly, to make the annual Membership Directory a supplement to the journal, rather than a numbered issue of it, and to expand the *KMS Newsletter* to include the KMS and KMS Alliance Presidents' columns, as well as current socioeconomic and practice-related news items.

KANSAS MEDICINE remains a peer-reviewed publication. As in past years, it provides both scientific and feature articles. The Spring issue contains a traditional mix of scientific articles and columns. The Summer issue will feature papers from the Human Genome Ethics Conference held in Wichita in March, as well as the proceedings from the KMS Annual Meeting. The 20th anniversary of the University of Kansas -Wichita Campus will be the cover story of the Fall issue and will feature a history of the school and several scientific articles by its faculty.

Last November we inaugurated "The Horse and Buggy Doctor," a series of excerpts from the book of the same name by Dr. Arthur E. Hertzler. These anecdotes recount his life from childhood through medical training, career and retirement. The many contrasts — and similarities — between medicine then and now are interesting and illuminating. We hope you enjoy them.

We are always seeking interesting artwork with a Kansas flavor for the journal covers. J. R. Hamil remains one of our favorites and, judging from the mail, he is one of yours. We will continue to review his new paintings for future covers. In the past year, we have introduced to KANSAS MEDICINE readers the work of several other fine regional artists, including Stephen Miner of Wichita; Phil Epp, formerly of Newton; Jim Brothers of Lawrence; and Vernon Brejcha of Lawrence.

The Editorial Board is interested in making the journal your publication and, therefore, we invite your comments, criticism and advice. Please let your views be made known.

No report would be complete without acknowledging the behind-the-scenes work of Susan Ward, recently elevated to the well deserved title of Managing Editor of Kansas medicine. Her editing skills have made my columns and, I am sure, the columns of our other contributors more polished, more readable and, we think, more interesting. She has done yeoman's work as the journal has gone through its metamorphosis, and we cannot thank her enough for her efforts on your behalf to keep Kansas medicine as your magazine.

#### KaMMCO —

#### Jimmie A. Gleason, M.D.

KaMMCO continues to grow and now has 40% of the Kansas market. The rate of growth was about 10% in 1994. Dr. Gleason thanked those delegates who are KaMMCO insureds. Ka-MMCO had three cases in court at the end of April. One was thrown out, and KaMMCO won the other two. The KaMMCO staff represents physicians to the best of their ability. The company is working for more tort reform. Managed care is coming, Dr. Gleason warned, and physicians should be on guard for related insurance issues. He advised physicians to scrutinize contracts to be sure they are in one's best interest. KaMMCO held over 50 programs last year to help physicians do a better job. The company remains "an advocacy organization that just happens to sell insurance." In its six-year existence, it has changed the medical malpractice insurance climate in Kansas. In conclusion, Dr. Gleason thanked the members for their support.

## Heartland Physicians' Health Network — Jay Schukman, M.D.

Dr. Schukman thanked Dr. Kermit Wedel, Chairman of the Heartland Board, for his service to

date. There are now 1,878 physician members, and \$7.8 million has been raised. The company is ahead of schedule and is now finishing its organizational stage. The staff will soon call on hospitals statewide. The market continues to change, and buyers are more sophisticated. Tremendous opportunities exist, Dr. Schukman noted, and "success will depend on you." Physicians will have access to the entire premium dollar in the future. Dr. Schukman introduced Bruce Gosser, Acting Chief Operating Officer, who will be available throughout the meeting to speak with physicians.

Executive Director — Jerry Slaughter

Mr. Slaughter stated that it is a pleasure to be associated with KMS. He highlighted the year's activities, noting that the AMA, as exemplified by Dr. Formica, works hard on physicians' behalf. Dr. Brada has been a delightful person to work with, "a gentle spirit with a firm hand." This is a time of transition, with KMS' first woman president. Mr. Slaughter hopes more women will become involved with organized medicine. He introduced the members of the KMS staff and thanked them for their hard work. He praised the work of KaMMCO and MSC.

At last year's meeting, Mr. Slaughter recalled, he told the physicians they need to believe in themselves. Most people said Heartland Health was impossible, but now a significant step has been taken toward its success. There are difficult decisions ahead, but eventually the effort will produce good results. Sometimes, he noted, to be a participant and gain autonomy, one must take risks. Starting Heartland Health is an appropriate role for the society. "You hold the key to your success," he told the delegates.

This is the beginning of his 23rd year with KMS, and it is "home." In closing, Mr. Slaughter thanked the delegates for the privilege of working for KMS.

The Speaker called for unfinished business. There was none.

The Speaker invited new business. Resolution 95-6 was withdrawn by its originator. Dr. Brada introduced Resolution 95-30, "Commendation of Nancy Sullivan"; 95-32, "Commendation of Gary Caruthers"; and 95-33, "Commendation Honoring the 70th Anniversary of KMS Alliance." Dr. Brada requested a suspension of the rules of the house in order to take this resolution

to the Alliance before Sunday. This requires a two-thirds vote of the house. Dr. Brada read the resolution, and it was adopted by acclamation.

Dr. Barnett introduced Resolutions 95-31 and 95-34, and they were referred to the Reference Committee.

The rules for Council District elections were read. Districts needing to conduct elections are 6, 7 and 10.

An invitation was extended to all delegates to attend the Reference Committee meeting immediately following the First House of Delegates. Members of the Reference Committee are: Anne (Katie) Rhoads, M.D., Chairman; Jimmie Browning, M.D.; Craig Concannon, M.D.; Howard Wilcox, M.D.; and Robert Yoachim, M.D.

Following several announcements, the meeting was adjourned at 10:10 a.m.

#### **SECOND SESSION**

The Second Session of the KMS House of Delegates was called to order by Speaker D. W. Bell, M.D., at 8:03 a.m. on Sunday, May 7, 1995. Rules by which the meeting would be conducted were reviewed, and the presence of a quorum was announced. Election ballots were distributed, and the Speaker named the Tellers: Newton C. Smith, M.D., Arkansas City; Perry N. Schuetz, M.D., Great Bend; and Russell D. Etzenhouser III, M.D., Shawnee Mission.

While the ballots were being distributed, the Speaker announced that evaluation forms regarding the expanded meeting format would be distributed for completion prior to departure.

The Speaker asked Reference Committee Chairman Anne (Katie) Rhoads, M.D., Olathe, to present the committee's report. Dr. Rhoads read the committee's recommendations for each resolution, and Dr. Bell invited discussion and voting by the delegates. (Results of these actions are printed below.) Dr. Bell thanked the Reference Committee for its work.

Executive Dean Daniel Hollander, M.D., of the University of Kansas Medical Center, was introduced by Dr. Bell. Dr. Hollander gave a presentation on the future of health care, focusing on managed care and the pros and cons of capitation. He noted that both the medical school and practicing physicians need to develop a new approach focusing on prevention, attention to basic issues, a team approach including allied health personnel, and generalists and specialists working together. The curriculum at KUMC is becoming

patient-centered, with an emphasis on prevention and outcomes measures. The school is rethinking traditional approaches. He advised physicians to learn to enjoy change, discard outmoded concepts, establish new partnerships, explore new areas and put patients first. A question-and-answer period followed Dr. Hollander's presentation.

Dr. Bell introduced KMS Past President Joseph C. Meek, Jr., M.D., the Dean of the University of Kansas Medical School -Wichita Campus.

The election results were announced:

PRESIDENT ELECT: David K. Ross, M.D., Arkansas City

FIRST VICE PRESIDENT: Joseph T. Philipp, M.D., Manhattan

SECOND VICE PRESIDENT: Jimmie L. Browning, M.D., Clay Center

CONSTITUTIONAL SECRETARY: Craig Concannon, M.D., Beloit

TREASURER: Anne C. Rhoads, M.D., Olathe Speaker: Dee W. Bell, M.D., Shawnee Mission VICE Speaker: Robert E. Barnett, M.D., Topeka

AMA DELEGATE: Jimmie A. Gleason, M.D., Topeka

ÂMA DELEGATE: Linda D. Warren, M.D., Hanover

AMA ALTERNATE DELEGATE: Terry L. Poling, M.D., Wichita

AMA ALTERNATE DELEGATE: Joseph C. Meek, Jr., M.D., Wichita

Dr. Bell recognized Douglas Young, M.D., Wichita, to make a special presentation on behalf of the Medical Society of Sedgwick County. Dr. Young presented a bronze falcon to Dr. Brada in gratitude for his service as KMS President.

The Speaker called for unfinished business. There was none.

Dr. Bell introduced the Society's new President, Linda D. Warren, M.D., who stated that she is honored to serve as President. She spoke of the changes and challenges that lie ahead, and of her beliefs and plans for the year. (The full text of her speech is printed on page 71.)

Dr. Warren announced the newly elected Councilors:

District #6: Thomas T. Coolidge, M.D., Topeka District #7: (pending) District #10: Kenneth K. Kimmel, M.D., Halstead

Dr. Warren installed the re-elected Speaker, Dee W. Bell, M.D., and Vice Speaker, Robert E. Barnett, M.D.

The Speaker announced that the next meeting of the House of Delegates will be May 2–6, 1996, at the Ramada Inn in Hutchinson. Following several more announcements, the meeting was adjourned at 10:00 a.m.

#### Resolutions

Those resolutions that were not adopted but were referred for further study or information are so indicated. The resolutions that failed to pass are retained in the official minutes at the executive office, but are not reported here. An asterisk following the resolution number indicates a change in the Constitution and By-Laws.

#### **RESOLUTION 95-1**

Expiration of 1990 Resolutions

Not adopted.

#### **RESOLUTION 95-2**

Task Force on Practice Issues

WHEREAS, Attempts by non-physicians to expand their scopes of practice into what has traditionally been the practice of medicine are increasing with the advent of a changing health care marketplace; and

WHEREAS, There is a growing trend among mid-level practitioners to seek greater clinical and economic independence from physicians with whom they have had supervisory or collaborative relationships in the past; and

WHEREAS, Recent court opinions and administrative decisions by agencies which regulate health care providers have created uncertainty and confusion over what constitutes the practice of medicine and surgery; and

WHEREAS, The quality of care rendered to patients by physician extenders is to a great degree dependent on the quality of the supervision provided by the physician; and

WHEREAS, As the nature of the relationships between physicians and other providers has evolved due to the changes in the health care marketplace, physicians are seeking guidance as to the appropriateness of certain supervisory or collaborative arrangements; therefore be it

Resolved, That the Kansas Medical Society reaffirm its opposition to the practice of medicine by individuals who are not licensed to practice medicine and surgery; and be it further

Resolved, That the KMS Executive Committee appoint a Task Force on Practice Issues to conduct a study on, but not limited to, the following:

- 1. Defining the practice of medicine and surgery;
- 2. The appropriateness of supervision of midlevel practitioners;
- 3. The use of protocols with ancillary personnel;
- 4. The basis and rationale for regulation of health care providers through state law;
- 5. The scope of medical education compared to the education of non-physician providers;
- 6. The structure of the Healing Arts Board, and alternatives to the current system of multiple administrative licensing agencies; and be it further

Resolved, That representatives of the specialty societies, Kansas Association of Osteopathic Medicine, Kansas Foundation for Medical Care, KaMMCO and Heartland Health be invited to recommend physicians for appointment to the Task Force; and be it further

Resolved, That the Task Force report on the progress of its study and deliberations at the September Council meeting, and that a final report be presented at the next meeting of the House of Delegates.

#### **RESOLUTION 95-3**

## Kansas Foundation for Medical Care — Endorsement

Whereas, Continued and active physician involvement is necessary to achieve the intended goals of the Medicare Utilization Review Program; therefore be it

Resolved, That the KMS continue to endorse the Kansas Foundation for Medical Care as the Professional Review Organization for Kansas for the coming year, and be it further

Resolved, That the KMS endorsement be reviewed on an annual basis.

#### **RESOLUTION 95-4**

#### Caring Program for Children

WHEREAS, The Kansas Medical Society is dedicated to improving the health of the people of Kansas, and

WHEREAS, Many Kansas children live in homes with limited family income and have no access to

health care insurance and, consequently, suffer from the limited access to health care, and

WHEREAS, The Caring Program for Children was an initiative created jointly by the Kansas Medical Society, the Kansas Hospital Association and Kansas Blue Cross/Blue Shield to offer the community an opportunity of providing health care to children with no other insurance access, and

WHEREAS, This program has been endorsed by KMS and several component medical societies, has been well received by physicians and the communities and has provided health insurance for deserving children across the state; therefore be it

Resolved, That this House of Delegates endorses the continued commitment of the Kansas Medical Society to the Caring Program for Children, and be it further

Resolved, That the KMS Alliance be encouraged to continue their support of this program; and be it further

*Resolved*, That physicians of Kansas personally and collectively support this program and encourage their local community to become involved.

#### **RESOLUTION 95-5**

#### Substance Abuse

Resolved, That the Kansas Medical Society reaffirm the medical profession's strong opposition to the abuse of alcohol, tobacco and illicit drugs, because of their deleterious effects on human health, and be it further

Resolved, That physicians on an individual basis be more cognizant of the potential for substance abuse in their evaluation of patients and be encouraged to discuss these problems openly with their patients, and be it further

Resolved, That the Kansas Medical Society strongly support and encourage the Kansas University School of Medicine to initiate and/or strengthen their current efforts to educate medical students and residents regarding the identification, treatment and prevention of substance abuse problems, and be it further

Resolved, That during the coming years, continuing medical education programs for physicians should include topics to inform all practicing physicians regarding the magnitude of substance abuse problems, as well as the recognized diagnostic and treatment modalities available in identifying and managing substance abuse problems.

#### **RESOLUTION 95-6**

Withdrawn prior to House of Delegates

#### **RESOLUTION 95-7**

#### **Evaluation of Physical Impairment**

WHEREAS, The Kansas Legislature enacted reforms of the workers compensation laws in 1993, and

WHEREAS, One of those reforms established uniformity in determining the extent of impairment of an injured worker, and

WHEREAS, That section of the Workers Compensation Act refers to the third edition, revised, "Guides to Evaluation of Permanent Impairment," published by the American Medical Association, and

Whereas, The "Guides to Evaluation of Permanent Impairment" has been updated to reflect the most contemporary medical knowledge on the various subjects contained therein, and

WHEREAS, Ratings as determined by use of the third edition, revised, may be unduly inflated, thus significantly increasing workers' compensation costs, since the ratings are based on range of motion limitations alone, in the absence of other neurologic or orthopedic pathology, and

WHEREAS, Ratings as determined by the use of the fourth edition are based on diagnosis-related estimates, thus providing a more universally consistent and definitive rating which will bring about a reduction of workers' compensation expenditures, therefore be it

Resolved, That the Kansas Medical Society call upon the Kansas Legislature to amend the Workers Compensation Act to reference the fourth edition of the "Guides to Evaluation of Permanent Impairment," in lieu of the third edition, revised, for the purposes of assuring application of up-to-date medical knowledge in the performance of impairment evaluations among injured workers.

#### **RESOLUTION 95-8**

#### Treatment of Injured Workers

Whereas, The 1993 Kansas Legislature enacted a comprehensive workers' compensation reform bill, and

Whereas, one section of the workers' compensation law requires a schedule of maximum medical fees, and

Whereas, That section of the law also requires that the schedule of maximum fees shall be sufficient to ensure accessibility to necessary treatment for injured workers, and Whereas, That section of the law also provides for an advisory panel to assist the Director of Workers' Compensation regarding the schedule of maximum medical fees, and

WHEREAS, The schedule of maximum medical fees established in 1993 has become obsolete and inadequate, and

WHEREAS, The current Workers' Compensation Act provides that "The schedule of maximum fees shall be reviewed annually by the director to assure that the schedule is current, reasonable and fair," and

Whereas, The advisory panel has recommended a general increase in all fees under the schedule, as well as correction of those fees which were not properly scheduled in 1993, therefore be it

Resolved, That the Kansas Medical Society call upon the Director of Workers' Compensation to update the schedule of maximum medical fees on an annual basis, as called for in the Workers' Compensation Act, to assure that the schedule of fees is current, reasonable and fair.

#### **RESOLUTION 95-9**

## Disciplinary Hearings Conducted by Kansas State Board of Healing Arts

Whereas, While concurring with the Kansas State Board of Healing Arts' statutory responsibility for holding formal hearings and the need for physicians to serve as witnesses at these hearings, concern has been raised by physicians regarding the board's use of outside plaintiffs' attorneys in conducting these hearings in which these hearings are conducted in a contentious, antagonistic and unnecessarily confrontational manner, and

WHEREAS, At least one defense attorney has raised concerns regarding the implications and use of unauthorized testimony presented at these hearings, and

WHEREAS, It is believed that disciplinary hearings involving professional incompetence or preliminary investigations by the board should not be conducted at the same time as when legal action on the same issues is being prosecuted in a court of law, therefore be it

Resolved, That the Kansas Medical Society's legal counsel review the Kansas Administrative Procedure Act and the appropriateness of its application to hearings conducted by the Kansas Board of Healing Arts, and be it further

Resolved, That a report, with any necessary recommendations, be presented to the September

meeting of the Council for consideration and action.

#### **RESOLUTION 95-10**

#### Maternal and Infant Care

WHEREAS, The provision of prenatal care and the delivery of newborns is considered to be the practice of medicine by the majority of the scientific medical community, and

Whereas, The State of Kansas has a responsibility to assure the public that these services are provided by qualified persons in a medically ap-

propriate environment, and

WHEREAS, In various areas of Kansas these services are currently being provided by persons who

are not held legally accountable, and

WHEREAS, Recent court decisions have raised questions as to whether or not the provision of prenatal care and the delivery of newborns fall within the statutory description of the practice of medicine, therefore be it

Resolved, That the Kansas Medical Society initiate action to promote and protect the safety and well-being of pregnant women and newborns by requesting an amendment to the Healing Arts Act which clearly states that obstetrics constitutes the practice of medicine and surgery, and be it further

*Resolved*, That a copy of this resolution be sent to the Task Force on Practice Issues, and be made a part of its study.

#### **RESOLUTION 95-11**

#### Collection and Reporting of AMA Membership Dues

WHEREAS, The current AMA policy regarding the billing for delinquent AMA dues causes confusion and ill will among the federation member-

ship, and

Whereas, Some members, although having paid their dues, are notified by the AMA in March that payment of their AMA dues is delinquent. This is because of the AMA's schedule for delinquent billings, which begins as early as March 6th. This is further complicated because of the necessary processing and time delays associated with the conveyance of the information and dues by the local and state societies, and

WHEREAS, This problem could be resolved by changing the AMA's delinquent billing dates and by more effective and coordinated reporting efforts by state and county societies, therefore be it

Resolved, That the Kansas Medical Society's

Executive Committee be instructed to submit to the AMA's House of Delegates at their 1995 annual meeting, a resolution calling for a review of the AMA's delinquent dues billing procedures and implementation of the necessary action which will resolve the current problems associated with the collection, reporting and conveyance of AMA dues, and be it further

Resolved, That the corrective actions be implemented prior to the billing for 1996 membership dues.

#### **RESOLUTION 95-12**

## Relationships Between Physicians and Pharmacists

Not adopted; referred to the Task Force on Practice Issues.

#### **RESOLUTION 95-13**

#### Medical Records

Whereas, Patients have a right to know information about their medical care which is contained in records maintained by treating physicians and hospitals; and

Whereas, Medical offices customarily release a copy or summary of a patient's medical records relating to services provided through that office to another physician when properly requested and authorized; and

Whereas, Some medical offices will not release a copy or summary of medical records contained in the patient's file which have been received from the patient's previous treating physicians, hospitals, etc.; and

Whereas, Failure to transfer medical records to another physician or to a patient's legally designated representative when requested by the patient to do so is defined as unprofessional conduct under the Healing Arts Act; and

WHEREAS, There is growing concern about the costs and charges for duplication of medical rec-

ords; and

WHEREAS, There is confusion about a physician's ethical and legal responsibility to release or transfer information gathered from previous treating physicians; therefore be it

Resolved, That the Kansas Medical Society initiate discussions with the Kansas Hospital Association, Kansas Bar Association, and KaMMCO for the purpose of developing guidelines on the legal, ethical and economic issues surrounding the release, transfer and duplication of medical records; and be it further

Resolved, That any guidelines developed by the study group must be approved by the House of Delegates or the Council prior to receiving KMS endorsement.

#### **RESOLUTION 95-14**

#### Preserving the Community of Physicians

WHEREAS, Physicians' ethical, professional and moral standards are being tested at all levels by the economic consequences of the managed health care market, and

WHEREAS, Solo physician practices are becom-

ing a way of the past, and

WHEREAS, The present health care climate encourages increasing consolidation of physician practices as a result of economic considerations, and

WHEREAS, The present economic forces in managed health care create divisiveness based on specialty, geographic, and economic considerations, and

Whereas, There is a need for all physicians to stand together in an inclusive organization which exists to strengthen their ethical and professional standards, and support their continued patient advocacy in the face of increasing economic pressures; and

WHEREAS, County and state medical societies exist to support physicians and their patients; therefore be it

*Resolved*, That the Kansas Medical Society appoint a committee to work towards strengthening physician unity at the county and state level.

#### **RESOLUTION 95-15**

## Educating the Public and Profession About Managed Care

WHEREAS, The health care system is currently undergoing profound changes, driven by a marketplace demanding managed care products, and

Whereas, It is estimated that in the near future managed care will be the dominant form of health care delivery, and

Whereas, The term "managed care" covers a broad spectrum of delivery models which can be confusing to the public and physicians alike, and

Whereas, The public looks to physicians, as leaders in the health care field, for information and guidance about evolving health care delivery models, therefore be it

Resolved, That the Kansas Medical Society develop a program to enhance the understanding of both the profession and the public about the

implications of moving to a health care system dominated by managed care, and be it further

*Resolved*, That the Mathematica study be used as a reference, and be it further

*Resolved*, That the KMS Executive Committee be directed to develop and implement the educational effort provided for in this resolution.

#### **RESOLUTION 95-16**

#### Concepts Within Family Health Care Preservation Act

WHEREAS, The issues of portability, permanence, and pre-existing illness are a concern to Americans, therefore be it

Resolved, That the Kansas Medical Society share the concepts within the Family Health Care Preservation Act of 1995, which are condensed in its executive summary, with its members for discussion.

Executive summary attached.

## I. ENHANCE SECURITY FOR THOSE PRESENTLY INSURED BY MAKING PRIVATE INSURANCE PORTABLE AND PERMANENT:

#### Portability:

To enhance the capacity of American workers to change jobs without losing their health insurance coverage, existing law under COBRA (which allows individuals temporarily to continue their health insurance coverage after leaving their place of employment by paying their premiums directly) would be modified to allow individuals two additional lower cost options to keep their health insurance coverage during their transition between jobs.

#### Workers could:

- (A) Continue their current coverage during the 18 months covered by COBRA by paying their insurance premiums directly;
- (B) Continue their current insurance coverage during the 18 months covered by COBRA by paying their insurance premiums directly, but with a lower premium reflecting a \$1,000 deductible; or
- (C) Continue their current insurance coverage during the 18 months covered by COBRA by paying their insurance

payments directly, but with a lower premium reflecting a \$3,000 deductible.

With these options, the typical monthly premium paid for a family of four would drop by as much as 20% when switching to a \$1,000 deductible and as much as 52% when switching to a \$3,000 deductible. Also, premium payments made by families would now be deducted from income in the manner described in title II of this bill.

In addition, individuals would be permitted to make penalty-free withdrawals from their individual Retirement Accounts and 401(k)s to pay for health insurance coverage during the transition period. The transition period of coverage would end once a person is in a position to get coverage from another employer.

#### Permanence

Health insurance would be made permanent (belonging to the family or individual) by these three reforms:

#### Those with Individual Coverage:

- (A) No existing health insurance policy can be canceled due to the state of health of any person covered by the policy. Insurance companies must offer each policy holder the option to purchase a new policy under the conditions of part B of this section with the terms to be negotiated between the buyer and seller of the policy.
- (B) All individual health insurance policies written after the enactment of this legislation must be guaranteed renewable, and premiums cannot be increased based on the health of the members covered under the group policy. In addition, similar to part A of this section, new group policies must provide each member of the group the right to convert to an individual policy when leaving the group. However, the premium charges of the individual leaving the new group plan cannot be based on the individual's state of health and cannot be canceled except for nonpayment of premiums.

Those with Employer-provided Self-funded Coverage:

- (A) Companies currently operating selffunded plans must make arrangements with one or more private insurers to offer individuals leaving the self-funded plan individual coverage. The individual policy will be rated based on actuarial data, but cannot be canceled due to the state of health of those covered by the policy.
- (B) All self-funded plans created after enactment of this legislation must (like part A of this section) make arrangements with one or more private insurers to offer individuals leaving the self-funded plan individual coverage. However, the premium charges for the individual leaving the self-funded plan cannot be based on the individual's state of health and cannot be canceled except for nonpayment of premiums.

#### II. A. PROVIDE EQUAL TAX TREAT-MENT FOR THE SELF-EMPLOYED AND UNINSURED:

Self-employed workers and individuals without employer-provided health insurance coverage will now be allowed to deduct from taxable income their medical insurance coverage costs. The 25% deduction will be retroactively restored and phased up to 100% over the next five years. The tax deduction will apply to the individual purchase of conventional health insurance, HMO coverage, Medical Savings Account contributions, or any other prepaid medical plan.

#### II. B. ESTABLISH MEDICAL SAVINGS ACCOUNTS TO PROMOTE COMPE-TITION AND CONTROL COSTS:

In combination with the purchase of a \$3,000 deductible catastrophic insurance policy, contributions to the Medical Savings Account of up to \$3,000 per year by either the employer or employee shall be tax deductible. The catastrophic policy will cover expenses such as physician services, hospital care, diagnostic tests, and other major medical expenses once the policy holder meets the \$3,000 annual deductible. Tax-free withdrawals form the Medical Savings Account could be made to pay for qualifying out-of-pocket medical expenses which may apply toward the insurance policy's deductible. If the funds in the Medical Savings Account are not spent so that as new deposits

are made, the sum grows beyond the \$3,000 deductible, the individual can invest excess tax-free in a long-term care package or withdraw the excess and treat it as income.

## III. ENHANCE EFFICIENCY THROUGH PAPERWORK REDUCTION:

- (A) Medicaid, Medicare, and all other federal entities involved in the funding or delivery of health care shall standardize their health care forms and must reduce their total health care paperwork burden by 50% within two years of enactment of this legislation. The paperwork burden must be reduced by another 50% over the following three years, achieving a total paperwork reduction of 75% over a five year period.
- (B) State agencies involved in the funding or delivery of health care, like federal entities, shall standardize their health care forms. Also, like federal entities, within five years of enactment, states must reduce their total health care paperwork burden by 75% in order to remain eligible for federal health assistance.

## IV. PROVIDE MEANINGFUL MEDICAL LIABILITY REFORM:

- (A) Any claim of negligence not "substantially justified" or which has been improperly advanced will result in an automatic judgment against the plaintiff rendering the plaintiff liable for the legal fees incurred by the health care provider, as well as any losses as a result of being away form the practice.
- (B) The liability of any malpractice defendant will be limited to the proportion of damages attributable to such defendant's conduct.
- (C) A health care provider can negotiate limits on medical liability with the buyer of health care in return for lower fees.
- (D) Non-economic damages cannot exceed \$250,000 adjusted annually for inflation.
- (E) Lawyers' contingency fees will be capped at 25%.
- (F) Malpractice awards will be reduced for any collateral source payments to which the claimant is entitled, and the claimant will be required to accept pe-

- riodic payment as opposed to lump sum on awards in excess of \$100,000 adjusted annually for inflation.
- (G) No malpractice action can be initiated more than two years from the date the alleged malpractice was discovered or would have been discovered, and no more than four years after the date of the occurrence.
- (H) No punitive damages will be awarded against manufacturers of a drug or medical device if such drug or medical device has been approved by the Food and Drug Administration as safe and effective.

#### **RESOLUTION 95-17**

**HCFA** Violation of FACA

Not adopted.

#### **RESOLUTION 95-18**

## Managed Care Participating Provider Contracts

WHEREAS, Physician service networks (local, state, and national) are being established through the use of provider contracts for the purpose of making available and marketing physician services, and

Whereas, The provider contracts of some health insurance companies and managed care plans may be assigned to another entity without the knowledge or consent of the involved physician, and

Whereas, When such assignment is made, the participating physician may have an obligation to provide services in accordance with the provisions of the original contract (e.g., fee schedule, write-offs, and utilization review decisions) with the physician's only possible recourse being termination of the original contract should he/she disagree with the unknown assignment, and

WHEREAS, It is generally felt that unilaterally assigned contracts are not in the best interest of Kansas physicians, therefore be it

Resolved, That the Kansas Medical Society oppose the assignment of physician contracts, in whole or in part, to other entities without the consent of the involved physician, and be it further

Resolved, That the Kansas Medical Society endorse and recommend inclusion of a nonassignability statement in all provider contracts so as to indicate that the contract cannot be assigned or

transferred to another entity without the prior written consent of the involved physician, and be it further

Resolved, That this matter be referred to the Society's Third Party Liaison Committee for further review, appropriate action and dissemination among the membership of the Kansas Medical Society.

#### **RESOLUTION 95-19**

#### Revamping Board of Healing Arts

Not adopted; referred to the Task Force on Practice Issues.

#### **RESOLUTION 95-20**

Recognition of Special Service to Medicine by Robert A. Gollier, II, M.D.

WHEREAS, Dr. Robert Gollier, II, M.D., Ottawa, Kansas, has been a vocal and constructive member of the Kansas Medical Society, and

Whereas, Dr. Gollier authored Resolution 92-6 adopted by the Kansas Medical Society at an early time and with far-reaching goals for organized medicine in teaching and practice, and

WHEREAS, Dr. Gollier backed up his beliefs and words by serving on a KMS-University of Kansas School of Medicine liaison committee to further implement Resolution 92-6, and

WHEREAS, The University of Kansas School of Medicine, as reported in the K.C. *Star*, April 20, 1995, recently announced a major shift in the curriculum of the medical school endorsing all of the ideas expressed by Dr. Gollier and adopted by the KMS in Resolution 92-6, therefore be it

Resolved, That the House of Delegates at the 1995 Kansas Medical Society annual meeting recognize Dr. Robert Gollier, II, M.D., of Ottawa by applause and with a plaque for his outstanding and constructive service to the Kansas Medical Society and Kansas medicine.

#### **RESOLUTION 95-21**

#### Medical Necessity Determinations

WHEREAS, Third-party payers frequently perform medical necessity review of physician services, and

Whereas, A service that is medically necessary is commonly defined as one that is widely accepted by a peer group of practicing providers, is based on scientific criteria, is reasonably safe, is consistent with the diagnosis and treatment of the condition, is in accordance with standards

of good health care practice, and is not for the convenience of the patient or provider, and

Whereas, A medical necessity determination as a measurement against a peer group in accordance with standards of care is a form of peer review, and

WHEREAS, Kansas Medical Society Resolution 94-3 adopted a policy that peer-review activities among physicians constitute the practice of medicine, and

WHEREAS, Third-party payers frequently use non-physician personnel to make medical necessity determinations, and

WHEREAS, New regulations to be adopted by the Kansas Insurance Commissioner will establish professional standards for personnel involved in medical necessity determinations, and

WHEREAS, The regulations will stipulate that only a physician may declare that a physiciandirected medical service is not necessary, and

WHEREAS, Federal law prevents the Insurance Commissioner from regulating certain self-insured employee health benefit plans, therefore be it

Resolved, That determination of medical necessity is a form of peer review which should be performed by physician peers, and be it further

Resolved, That a KMS task force will develop a standard definition of medical necessity and/or defined guidelines for determination of medical necessity to be utilized in this peer review, and be it further

*Resolved*, That the Kansas Medical Society endeavor to communicate this policy to third-party administrators and employers which self-insure employee health benefit plans.

#### **RESOLUTION 95-22**

#### COBRA and Managed Care

WHEREAS, The Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1986 federally mandates hospitals to perform emergency medical screening exams, and

WHEREAS, The medical screening exam must be performed on all patients presenting to the hospital, and

WHEREAS, The exam must be performed regardless of the ability to pay, and

WHEREAS, The exam must be performed independent of any guidelines promulgated by managed care organizations or third party payers, and

WHEREAS, The exam must be performed before any information regarding managed care organi-

zations is obtained, and

WHEREAS, The medical screening exam may include considerable testing, referral and treatment prior to stabilization, and

WHEREAS, The medical screening exam may generate substantial expense to the patient insured by a managed care organization, therefore be it

Resolved, That the Kansas Medical Society make known to managed care organizations their endorsement of required financial responsibility of managed care organizations for the medical screening exam, testing and referral, and recommend to the AMA that a national effort to mandate reimbursement for emergency room medical screening exams (triage) be a priority.

#### **RESOLUTION 95-23**

#### **Podiatry Scope of Practice**

WHEREAS, The Kansas Podiatric Medical Association introduced Senate Bill 55 in the 1995 legislative session, and

Whereas, This bill would have allowed podiatrists to amputate the foot and toes, administer general anesthetics, and utilize the term "physician" in conjunction with their name, and

Whereas, KMS has opposed any legislative attempts by non-physicians to practice medicine and use the term "physician," therefore be it

Resolved, That KMS reaffirm its opposition to proposed changes in the podiatry act which expand the scope of practice for podiatrists, and be it further

Resolved, That KMS reaffirm its opposition to changes that would allow podiatrists to utilize the term "physician" in conjunction with their name, and be it further

Resolved, That this resolution be sent to the Task Force on Practice Issues and made a part of its study.

#### **RESOLUTION 95-24**

#### Commendation of Wayne Stratton

WHEREAS, Wayne T. Stratton, J.D., has served as General Counsel to the Kansas Medical Society for 20 years; and

WHEREAS, During that time he has provided counsel of the highest quality and integrity to KMS on legal and legislative matters; and

WHEREAS, As one of the leading defense lawyers in Kansas he has served as a superb advocate for physicians in professional liability litigation; therefore be it Resolved, That the Kansas Medical Society commends Wayne Stratton for his exemplary service to the physicians of Kansas for the past 20 years; and be it further

Resolved, That a copy of this resolution be sent to Mr. Stratton with the deepest appreciation for his efforts on behalf of the Kansas Medical Society for the past 20 years.

#### **RESOLUTION 95-25**

#### Supervision of Mid-level Practitioners

WHEREAS, Scope of practice issues involving non-physicians have become more and more controversial in the Legislature as the health care system moves toward managed care; and

WHEREAS, The Kansas Healing Arts Act gives broad authority to physicians to delegate acts which constitute the practice of medicine to persons working under their supervision, or in collaboration with them; and

Whereas, Testimony during the 1995 legislative session by a nurse practitioner alleged that some physicians were being paid solely for the purpose of providing a prescribing protocol to nurse practitioners, with no supervision or collaboration on patient care involved; and

Whereas, Such arrangements do not promote quality, nor are they in the best interest of patients because there is no supervision or participation by the physician in the care that is rendered; therefore be it

Resolved, That it is unethical for physicians to accept compensation from any source when it is given solely for the purpose of securing a prescribing protocol, supervisory relationship, "responsible physician" status, or other arrangement with a mid-level practitioner that does not require the active supervision, oversight, and/or involvement of the physician at reasonable and appropriate intervals in patient care rendered by the mid-level practitioner; and be it further

Resolved, That KMS develop and seek an appropriate amendment to the Healing Arts Act that would make such arrangements grounds for disciplinary action; and be it further

Resolved, That this resolution be sent to the Task Force on Practice Issues and made a part of its study.

#### **RESOLUTION 95-26**

#### Fees for Medical Records

(Not adopted; filed for information.)

#### **RESOLUTION 95-27**

#### Prescribing by Pharmacists

WHEREAS, During the 1995 legislative session HB 2216 was introduced by the Kansas Pharmacists' Association; and

WHEREAS, This bill would have allowed pharmacists to prescribe drugs pursuant to written protocols between a responsible physician and the

pharmacist; and

WHEREAS, KMS opposed the legislation because it is felt that pharmacists lack the clinical training and experience necessary to prepare someone to examine, evaluate, and treat patients; therefore be it

Resolved, That KMS reaffirm its opposition to legislation which would allow pharmacists to prescribe under protocols; and be it further

Resolved, That KMS oppose any other expansion of the use of protocols with non-physician providers until an appropriate committee or task force of the KMS has had an opportunity to review the appropriateness of the use of protocols as a means of delegating acts which constitute the practice of medicine and surgery to non-physicians; and be it further

Resolved, That this resolution be sent to the Task Force on Practice Issues and made a part of

its study.

#### **RESOLUTION 95-28\***

#### Affiliate Memberships

WHEREAS, It has been the policy of the House of Delegates that all physicians who are either insured by KaMMCO or who own stock and contract with Heartland Health must be members of the Kansas Medical Society; and

WHEREAS, Special categories of membership have been created to accommodate certain groups of physicians so that the membership requirement could be met in a reasonable and fair manner; and

WHEREAS, There is a strong possibility that both KaMMCO and Heartland will be in a position to offer services, contracts and products to non-physician health care providers in the coming months; and

Whereas, In order to maintain consistency of policy, it will be desirable to have those organizations become members of KMS just as physicians do, but in a non-voting membership category; therefore be it

Resolved, That the KMS Bylaws be amended by adding a new section creating an Affiliate

Membership category for non-physician individuals and entities, as follows:

1.64 Affiliate Members. Institutions, facilities, corporations or other organizations that do not qualify for other categories of membership. Affiliate members may not vote nor hold office. They may apply directly for membership, and are not required to join through a component society. Dues and assessments for Affiliate Members shall be set by the Council.

#### **RESOLUTION 95-29**

#### Revision of Kansas Sexual Battery Statutes

Referred to the Executive Committee for study.

#### **RESOLUTION 95-30**

#### Commendation of Nancy Sullivan

WHEREAS, This year is the 10th anniversary of Nancy Sullivan's employment with the Kansas Medical Society; and

WHEREAS, During the past decade Nancy has served the physicians of Kansas as an integral part

of the KMS office staff; and

WHEREAS, Nancy's cheerful and competent style has contributed immensely to the work of KMS and the Alliance; therefore be it

Resolved, That the Kansas Medical Society expresses its deepest appreciation and thanks to Nancy Sullivan for 10 years of unfailingly superb work and commitment to Kansas physicians and their spouses.

#### **RESOLUTION 95-31**

#### Commendation of Oklahoma Physicians

WHEREAS, Oklahoma and Kansas not only are contiguous states but also share many historic and cultural ties, and

WHEREAS, Oklahoma and Kansas physicians, recognizing this common heritage, have a long-standing practice of meeting together to advance common interests at the AMA level on behalf of their respective state medical associations, therefore be it

Resolved, That the Kansas Medical Society in its annual meeting on May 5-7, 1995, extend its condolences to the families and victims of the Oklahoma City bombing of April 19, 1995, and be it further

Resolved, That the Kansas Medical Society commend the physicians of the Oklahoma Medical Association on their exemplary handling of

the medical aspects of this disaster, which is in the highest tradition of the profession, reflecting honor upon themselves and the State of Oklahoma, and be it further

Resolved, That the text of this resolution be transmitted to the Oklahoma Medical Association staff, officers and delegates from their Kansas counterparts, dated this 7th day of May, 1995.

#### **RESOLUTION 95-32**

#### Commendation of Gary Caruthers

Whereas, 1995 marks the 20th anniversary of Gary Caruthers' employment with the Kansas Medical Society; and

WHEREAS, During those two decades Gary has been an invaluable member of the KMS staff, serving the physicians of Kansas with distinction in several capacities; and

WHEREAS, Gary has been a true friend and advocate for the physicians of this great state; therefore be it

Resolved, That the Kansas Medical Society expresses its profound thanks and appreciation to Gary Caruthers for 20 years of dedicated and loyal service to the physicians of Kansas.

#### **RESOLUTION 95-33**

## Commendation Honoring the 70th Anniversary of KMS Alliance

WHEREAS, The Kansas Medical Society Alliance is celebrating its 70th anniversary at this House of Delegates, and

WHEREAS, The Alliance is composed of physician spouses who utilize their many skills and talents to aid the Society in helping to improve the health of all Kansans, and

WHEREAS, Their efforts on our behalf have proven to be an invaluable aid to the mission and objectives of the Kansas Medical Society, therefore be it

Resolved, That the Kansas Medical Society through this House of Delegates extend its best wishes, thanks for a job continuing to be done and a most heartfelt Happy Birthday to the Kansas Medical Society Alliance, and be it further

Resolved, That we look forward to more fruitful years ahead.

#### **RESOLUTION 95-34**

#### Commendation Honoring the Johnson County Medical Society and Johnson County Medical Alliance

WHEREAS, The Johnson County Medical Society and the Johnson County Medical Alliance have provided an excellent ambiance for another successful KMS House of Delegates meeting, and

WHEREAS, The accommodations have seen to the comfort of the delegates and their spouses, and

WHEREAS, The scientific program and speakers have been informative and stimulating, and

Whereas, They have provided interesting diversions for our leisure time — and you can "bet" on that, therefore be it

Resolved, That the KMS House of Delegates thank, commend and give a big "Harrah" to the Johnson County Medical Society and the Johnson County Medical Alliance for their efforts to make the I36th meeting of the House of Delegates of the KMS a success, and be it further

Resolved, That copies of this resolution be forwarded to the Johnson County Medical Society and the Johnson County Medical Alliance.

## Council District Reports

#### **COUNCIL DISTRICT I**

The physician members and spouses of Council District 1 met on October 4, 1994, at the Heartland Inn in Hiawatha. There was good representation from all three medical societies included in the district: Northeast Kansas, Atchison County and Leavenworth. The majority of the discussion covered the Heartland Physicians Health Network (HPHN) and how it might eventually affect health care in northeast Kansas. There was an excellent question-and-answer session conducted by KMS President Dr. Don Brada and KMS Director of Public Affairs Chip Wheelen.

Acting as a board member of Heartland Health, I gave a presentation to the Leavenworth County Medical Society in November 1994. Again, excellent questions were asked, and I felt positive information was presented about HPHN. At the time this report was prepared, 59% of northeast Kansas physicians belonged to

Heartland Health.

The final news item involves the key contact program through District 1 of the Kansas Medical Society. Because of timely phone calls made to legislators in our district, we were able to table legislation related to scope of practice conflicts with mid-level practitioners, etc.

John R. Eplee, M.D., Councilor

#### **COUNCIL DISTRICT 3**

The Johnson County Medical Society has focused on the following projects: annual Legislative Dinner, annual Legislative Breakfast, three physician preceptor programs, Healthy Kids Council and

monthly meetings.

The Healthy Kids Council is a coalition of the county hospitals, schools, health department, Johnson County Medical Society, Johnson County Community College and Johnson County Medical Society Alliance. Their mission statement is "striving for solutions to health care challenges of Johnson County youth." The Council is planning a day of continuing education for school nurses, teachers, social workers and counselors on August 3.

The annual Legislative Dinner was held at the Overland Park Marriott. The speaker was Dick Schultz. The Legislative Breakfast was a round-

table forum with the physicians and legislators. This year Olathe Medical Center hosted the breakfast.

During the week of June 27, 1994, a physician preceptor program was held jointly with Wyandotte County Medical Society for the legislators from Johnson and Wyandotte counties. The ninth and tenth programs were held the weeks of October 24 and January 30. The chairmen of the program have been George Bures, M.D., and Tom Williams, M.D.

Teresa Tracy, M.D., and Sam Montello, M.D., were judges for the Greater Kansas City Science Fair. Certificates and prizes were presented to the first-, second-and third-place entries from "The Physicians of Greater Kansas City." Johnson County, Metropolitan Medical Society and the Jackson County Osteopathic Society each provided two judges for the biological division of awards.

KMS President Don Brada, M.D., his wife, Kay, and KMS Alliance President Nancy Craig visited Wyandotte and Johnson Counties in January 1995.

We have resumed meeting the fourth Tuesday at 6:30 p.m. at the Overland Park Doubletree Hotel. The meeting topics continue to focus on socioeconomic issues.

The Office Personnel Luncheon Group continues to meet on the fourth Tuesday for lunch in an area restaurant. Round-table group discussions are held regarding pertinent topics in health care.

Our President is Anne C. (Katie) Rhoads, M.D. Lawrence D. Riffel, M.D., Councilor

#### **COUNCIL DISTRICT 4**

This district consists of three independent county medical societies: Bourbon (Herbert Grantham, President); Crawford-Cherokee (Mark Carlson, President); and Labette (James Welch, President). All three societies have had regular programs with continuing medical education offerings. The Crawford-Cherokee society also oversees the county ambulance service. The Labette County society has provided nursing scholarships at Labette Community College. The council was fortunate to have KMS President Donald

Brada and KMSA President Nancy Craig visit the council meeting on September 13, 1994.

Several physicians in Council District 4 have been active in the Kansas Medical Society. Stephen Miller, of Parsons, has been an AMA Delegate, council member, and member of the Executive Committee, Continuing Medical Education Committee, Impairment and Advocacy Committee, and Professional Liability Committee. Daniel Pauls, of Parsons, has been a council member, chair of the Geriatric Committee, a member of the Legislative Committee and representative to the Statewide Trauma/EMS Planning Group.

Daniel N. Pauls, M.D., Councilor

#### **COUNCIL DISTRICT 6**

This will be my last annual councilor's report for the KMS Council, as I am completing my second three-year term at this meeting. I have enjoyed my involvement with the council and will miss serving in that capacity.

Our annual meeting was held in the garden at Historic Ward Meade Park in Topeka, and we were honored to have the KMS President as our guest of honor. In 1992, SCMS entered into a project in conjunction with Ward Meade and the Shawnee County Dental Association to create a turn-of-the-century drug store with working soda fountain and pharmacy, and including a physician's and a dentist's office as museum exhibits. We pledged, as "pace-setters" in this project, to raise \$80,000. Alliance member Joanne Harrison has served as fundraising chair for the project and to date has raised \$60,000 in contributions from our members. The building has become a reality, and later this summer we will begin the process of creating the museum exhibit.

Last summer we embarked on a project to better understand how we could make Shawnee County Medical Society more relevant to our members. We met with our total membership in small groups, throughout July, August and September, and asked them for their criticism and praise. This was a good process that allowed us to implement several new programs for our members and discontinue some that weren't working.

In September, the Race Against Breast Cancer Coalition, a program for low- or no-cost mammography screening for women in Shawnee County, incorporated and SCMS became a member of the board of directors. In its two years of operation, the program has provided 310 free mammograms and two mastectomies to its cli-

ents. The program is beginning an expansion phase, and plans are underway to move it into the SCMS headquarters this July. We are proud to have played a part in the creation of this valuable service to our community. The program is funded in part by the Junior League of Topeka and by the 5K Race Against Breast Cancer run/walk in October. Last year SCMSA member Debbie Geist was race chair and raised over \$8,000 for the program.

SCMS also continues to be involved in planning activities for Breast Cancer Awareness Month in October. We once again were co-sponsors of the "Women's Power Breakfast to Fight Breast Cancer," in addition to other educational and support activities. The breakfast was attended by over 250 women.

During the past year, we focused our community services on a variety of issues. Child sexual abuse took the forefront when in April we cosponsored, with St. Francis and Stormont-Vail hospitals, "Break the Silence" — a weekend of education around the issues of child sexual abuse. The centerpiece of the weekend was a display of "Tears of the Children," a traveling exhibition of artwork addressing the issue. More than 1,000 persons attended the exhibit.

We have continued our policy of working with other community agencies to provide a wide variety of health promotional activities. We worked with Stormont-Vail to provide skin cancer screenings and did a healthy eating workshop in August. In July we co-sponsored, with Washburn University, the National Youth Sports Program, providing summer activities for over 300 underprivileged youth. In August we gave free physicals in conjunction with the Community Action Center's Back-to-School Fair. We have continued to serve on the Immunization Task Force and assist with educational activities pertaining to fetal alcohol syndrome. In October we were a co-sponsor of the Governor's Conference for the Prevention of Child Abuse and Neglect. This was a very positive experience for us, and we will be involved in the 1995 conference as well.

Upcoming events include a project to address the medical needs of the homeless and creation of an AIDS walk as an annual fundraiser for the Topeka AIDS Project.

Our mini-internship program has proven to be a highly successful tool which allows community leaders a two-day, behind-the-scenes look at the practice of medicine. We offer this program twice a year, spring and fall, and have expanded the attendance to include high school students interested in becoming physicians. The next session begins at the end of May.

The Legislative Committee continued to work diligently to inform our members of pertinent issues. They developed a rapid-response "calling tree" comprising the entire membership, in order to become mobilized quickly to respond to a political issue. We hosted our annual Candidates' Forum in October and gave our members an opportunity to talk directly to legislative candidates.

Though our Women's Section was formed specifically for activities surrounding Women in Medicine Month in September, it has remained active throughout the year. In September they hosted a workshop for women on "Shame and Body Image," which was well attended. The section has also been supportive of activities surrounding "Take Your Daughter to Work" events. As a means of informal networking, they started a monthly luncheon for all women physicians in the county. These are well received. In 1995 the section is addressing parenting issues. They will host a healthy parenting workshop in September and have entered into negotiations to bring T. Berry Brazelton, M.D., to Topeka in 1996 for a weekend workshop on this issue.

Our Seniors Section has continued its work of supporting our retired physicians. They make regular calls on homebound members and meet twice monthly at the SCMS headquarters for the Senior Doctors' Lounge. The senior physicians have also begun working with USD 501 as adjunct teachers for elementary and middle school science classes. This program has been very successful. Last year the senior physicians began the ongoing History of Medicine Lecture Series, which is presented to the community twice yearly. The first lecture, "A Medical History of Topeka," was presented by Robert Cotton, M.D. Since then we have had "A History of Schizophrenia," presented by Dean Collins, M.D., and "A Celebration of the 100th Anniversary of Roentgen's Discovery of the X-Ray," given by Millard Spencer, M.D. These lectures have been well attended by the community.

SCMS has been working diligently on means to create "non-dues income" to cover expenses without raising dues. Some of the most successful means have been workshops for members and office staff dealing with such issues as stress. We also offered to our younger members an "Investments for Beginners" workshop that was quite successful.

Our Residents Section became active this year with the first class of residents entering the Family Medicine Residency Program. Including the psychiatry residents at Menninger, we now have over 60 residents in our community. In an effort to get them involved in organized medicine, the society waived its resident dues and pays their KMS dues. The residents have engaged in various community service and social activities throughout the year.

Thanks to our ever-growing medical community, KaMMCO insurance and the growing resident population, our membership continues to increase. Our records now indicate a membership of 425. Since my last report, we have lost several long-time members of the society: Floyd Beelman, Harry Bowen, Rodger Kirkegaard, Jack Ross, William Tarnower and Nat Uhr.

In all, this has been an exciting time for SCMS, and we face the future head-on. I have enjoyed my two terms as Councilor and will continue to be active in the society.

Robert D. Durst, M.D.

#### **COUNCIL DISTRICT 8**

Activities this past year have been highlighted by the visit in September 1994 by KMS President Donald Brada, M.D., from Wichita. Dr. Brada outlined his agenda, explained his objectives for the year and discussed several aspects of the legislative program. A highlight of the meeting was a visit from Mrs. Nancy Craig, KMSA President. She outlined her program for the coming year and the appropriateness of developing new programs. One of the most pressing issues is membership and participation.

There has been little dialogue with the Butler-Greenwood Society, but they were all invited to the Annual Meeting of District 8.

The Cowley County Medical Society holds monthly meetings and has a scientific program sometimes sponsored by the Wichita Campus of the KU Medical School. Other programs have been sponsored by pharmaceutical companies.

Our membership is still not back up to the level prior to the unified membership resolution. We are striving to enroll every physician in Cowley County, but so far have not been successful. The rescinding of the unified membership requirement has been of some help. We still have several members who are also members of the AMA. There is slight attrition in the number of physicians in the district. Arkansas City has been working diligently to recruit. We do have some consul-

tants from Wichita and Ponca City, Oklahoma, which helps a great deal.

The Snyder Clinic in Winfield has added some new physicians this year, and the hospital is anticipating the arrival of a full-time psychiatrist in June. She will be welcome!

At the time this report was prepared, the extent of members' participation in the Heartland Physicians Health Network was not known, since credentialing was not complete.

Newton C. Smith, M.D., Councilor

#### **COUNCIL DISTRICT 11**

The activities of the Medical Society of Sedgwick County continue to increase, in terms of both numbers and complexity. The MSSC's membership at the end of 1994 totaled 968, of whom 785 are actively practicing.

During the past year, the society's major endeavor, in cooperation with the four Wichita hospitals, has been the development of a cooperative Medicaid managed care program incorporated under the name of Community Care of Kansas (CCK). Throughout this program, the owner entities, which have been expanded to include some rural hospitals, physicians and other medical providers with whom the CCK will subcontract. will be at financial risk for providing the required medical benefits to approximately 40,000 AFDC and AFDC-related Medicaid patients residing in Sedgwick, Bourbon, Finney and Montgomery counties. This proposal has been endorsed by SRS and was recently submitted to HCFA for approval and granting of the necessary 1115 waiver. In accordance with Kansas legislative action, implementation is slated for January 1, 1996.

With the expansion of managed care programs, and in an effort to reduce the redundancy of physicians' completing numerous membership applications and the related duplication of efforts in verifying physician and non-physician training and practice information, efforts are in process to develop a cooperative information verification program which could be used by all Kansas managed care programs. A similar program developed in 1992, involving all of the Sedgwick County hospitals, has been successful.

In accordance with action of the Kansas Legislature, medical guidelines and protocols for all Type II ambulances operating in the county have been finalized and distributed.

The MSSC's other related programs include the WPPA, Medical Review Foundation, Employee Assistance Program, Hospital Physician Information Verification Program, Paging, Medical Careers Loan Fund, Medical Student Emergency Loan Fund, Medical Service Bureau and Pharmacy Hotline. All continue to operate successfully.

James A. Loeffler, M.D., Councilor

#### **COUNCIL DISTRICT 13**

Mrs. Nancy Craig, President of KMSA, and Dr. Don Brada, KMS President, addressed the Central Kansas Medical Society (CKMS) membership at our fall meeting October 27, 1994. Current concerns about the Heartland Physicians Health Network offering and other state and national events were discussed.

The medical community of the CKMS area continues to grow. Twenty-two more new physicians have entered the community in the last year. Physicians were recruited in the disciplines of neurology, oncology, family practice, physiatry, psychiatry and pediatrics.

CKMS continues its long-term commitment to support Fort Hays State University by funding support for pre-med student scholarships.

During the fall meeting, held on October 27, 1994, new officers for 1995 were elected. They are Dr. Ross Stadalman, President; Dr. Donald Tillman, Vice President; and Dr. John Pokorny, Secretary-Treasurer. District Representatives Howard Wilcox and Greg Woods were selected to attend the KMS Annual Meeting in May 1995.

Ward M. Newcomb, M.D., Councilor

#### **COUNCIL DISTRICT 14**

The Barton-Pawnee County Medical Society held its annual meeting on Thursday, June 23, 1994, at the Petroleum Club in Great Bend. During that meeting, Richard C. Preston, M.D., was elected President, and I was elected Councilor. Donald Brada, M.D., newly installed as KMS President, addressed the meeting, along with other dignitaries and KMS staff. Most of the local legislators were also in attendance.

Jay Schukman, M.D., departed from his family practice duties last summer to become Medical Director of Heartland Health. Our society is glad to share Jay's expertise with the rest of the state. Jay is missed, and his replacement, Richard Dexter, D.O., has quickly become very busy assuming Jay's practice.

Last fall Dr. Marta Edmonds' spouse, John,

was elected Representative for the 113th District. This is another friendly face for Kansas medicine.

Our area, which includes Barton, Pawnee and Stafford counties, is still somewhat underserved in primary care. But we are hopeful that some new recruits arriving this summer will bring some relief.

Perry N. Schuetz, M.D., Councilor

#### **COUNCIL DISTRICT 15**

The southwest corner of Kansas has had some changes over the past year. These are exemplified in one respect by Liberal, which has been actively recruiting and relocating Canadian physicians into the community. This has become more difficult recently because these immigrants are compelled to take the U.S. MLE, which is given in three parts over a long period of time throughout the year. Despite the inconvenience, Liberal has still successfully recruited a few.

What is most notable is that recruiters in Liberal have located specialists from urban areas on the east coast who have been displaced due to managed care organizations garnering control of the market. This is quite a significant trend. We are seeing an influx of Canadians into Liberal due to discontent with the government-run health care delivery system in Canada, and an influx of some American specialists from urban areas also searching for opportunities without central management by managed care organizations.

Dodge City, the other dominant city in the district, has seen Columbia HCA acquire its only hospital, as well as the physician-owned Surgi-Center in the town. A few specialists have migrated into the dominant clinic in Dodge City, as well. Both of these cities are probably showing some growth. The smaller towns in the southwest, including Meade, Minneola, Ashland, Coldwater, Kinsley and Bucklin, which did have medical clinics or small hospitals, are showing static or declining populations in their hospital census. Coldwater did attract a Canadian physician who stayed for only a few months. Ashland has lost its own attending physician and is served by an itinerant internist from Meade. This internist is a Canadian-trained physician who completed a residency in New York City and has a two-year contract.

In summary, the stronger and larger communities probably have shown some growth, but there is wider-spread atrophy in the smaller towns in southwest Kansas to some degree. We are all an-

ticipating with some apprehension the upcoming Medicare cuts.

Seeley T. Feldmeyer, M.D., Councilor

#### **COUNCIL DISTRICT 17**

The Southwest Kansas Medical Society met in Garden City on April 19, 1994, where Dr. Tom Mathews was elected President. We met with the Honorable Steve Morris, the local state district senator, who gave a review of issues which the legislature had addressed regarding health and reform. The thrust of his talk was that, although there are problems with excessive cost, these could be remedied short of a complete system overhaul. The "403 Commission," chaired by Dr. Bill Roy, was discussed, along with the movement in the legislature to encourage primary care at the University of Kansas School of Medicine.

Our meeting on September 27, 1994, was attended by KMS President Dr. Don Brada, who spoke on several fronts of action and interests which the Society maintains including, at the national level, the Patient Protection Act, Health Care Antitrust Improvement Act, liability reform, and the House Bipartisan Health Care Reform Bill, which have been supported by the AMA. On the state level, he discussed the Health Care Reform Oversight Committee, formed to observe Washington's activities and to provide appropriate legislation for Kansas. We also discussed the Blue Highways Committee, utilized by the legislature to obtain feedback about rural health needs, and finally the collateral source rule, which was vetoed by the governor. Dr. Brada also outlined the developing Heartland Physicians Health Network in order to inform physicians considering contributing to its funding.

The Southwest Kansas Medical Society met again November 16, 1994. Initial discussion was over managed care, and then Dr. Howard Reynolds, retired professor of botany from Fort Hays State University, gave a talk on "Ethnobotany in the Rain Forest."

The local medical society met again on March 30, 1995. At that time, it was announced that the Southwest Kansas Medical Society Directory was at the printer and would soon be available to the members. A talk was given by Betty Waddington, CMPE, consultant with the Medical Group Management Association, who presented a program dealing with managed care organizations during the coming decade.

Bruce D. Melin, M.D., Councilor

#### **CME OPPORTUNITIES**

Ethical Decision-Making Along the Continuum of Care. Sept. 22, 1995; Airport Hilton, Wichita. Call KMS 800-332-0156 or 913-235-2382.

Comprehensive Gynecology. Sept. 29-Oct. 2, 1995; New York. Call Center for Bio-Medical Communication, 201-385-8080.

Disease and Deception in the White House (historical program on presidential physicians and their patients), presented by Robert P. Hudson, M.D. Oct. 7, 1995; Kansas City. Call 913-588-4488.

Advances in Sonography. Oct. 13-15, 1995; Chicago. Call Soc. of Radiologists in Ultrasound, 215-574-3183.

**ASIM Annual Meeting.** Oct. 18-22, 1995; Washington, DC. Call 202-835-2746.

North American Spine Society Conference. Oct. 18-21, 1995; Washington, DC. Call 708-698-1630.

Heartland Rural Health Forum. Oct. 19-22, 1995; Kansas City, MO. Call NRHA, 816-756-3140.

Managed Care Conference. Oct. 22-25, Nashville. Call AMCRA, 202-728-0506.

State-of-the-Art Conference. Oct. 23-27, 1995; Seattle. Call Am. Coll. Occupational & Environmental Medicine, 708-228-6850.

Infectious Disease Review Course. Nov. 3-5, 1995; Bethesda, MD. Call Center for Bio-Medical Communication, 201-385-8080.

Preventing Atherosclerosis. Nov. 4, 1995; Kansas City, MO. Call KUMC, 913-588-4488.

## KaMMCO LOSS PREVENTION SEMINARS

Call Diana Mayer at KaMMCO, 800-332-2259, or 913-232-2224, for information about the following seminars.

- Topeka, September 18.
- Fort Scott, October 2.
- Havs, October 9.
- Hutchinson, October 16.
- Wichita, October 18.
- Topeka, October 23.
- Shawnee Mission, October 26.

#### **COUNCIL DISTRICT 18**

Council District 18 met in February with Dr. Brada and Alliance President Nancy Craig at the Learned Club in Lawrence, with representation from Anderson, Franklin and Douglas counties. The response to Heartland Health by our physicians has been very positive and this, in turn, has helped increase membership in the county as well as the state society. Like Franklin County, Douglas County physicians have been working with the hospital to develop a local provider network. The Community Health Plan has now been initiated in Douglas County.

A great deal of discussion has been generated by the migration of Columbia Health Corporation into the Lawrence community, with its possible impact on the viability of the community hospital. Columbia's influence has even affected Anderson County. We are growing more and more aware of the movement of big business into the medical marketplace, with the resultant changes in the practice of medicine as we know it today.

Phillip A. Godwin, M.D., Councilor

#### **COUNCIL DISTRICT 19**

Our past year has been a very interesting and challenging one. We have been dealing with the establishment of PHOs in at least two of the area hospitals. We are trying to keep abreast of managed care and have monthly meetings regarding pertinent CME topics.

We also very much enjoyed our annual visit from the President of KMS.

Charles L. Empson, M.D., Councilor

## HAVE YOU MOVED RECENTLY?

Don't forget to let KMS know! Please complete and return the change-of-address form on page 70.

# The History of Scurvy and the Poetry of Illness

James Cook and the Conquest of Scurvy, Francis E. Cuppage (Westport, CT: Greenwood Press, 1994), 192 pp., \$55 hardbound.

A black-powder flintlock pistol from the Andes of Ecuador now resides in my home. It was made in London well over two centuries ago, and in his book Dr. Cuppage provides the following insight into how it may have found its way to Quito. In 1740, the British Admiralty, predicting war with Spain, sent a squadron of naval vessels to annoy Spanish missions along the Pacific coast of South America.

South America.

The volume describes many other facets of the history of the British Admiralty, the Manila Galleon, naval medicine, and world history as well. The book examines relationships among botany, medicine, and global events, in addition to descriptions of and investigation into the causes of scurvy.

Like Darwin, whose pivotal voyage to the Galápagos Islands took place 63 years later, Cook was one of the famous scientists who began their careers as ships' surgeons. In fact, according to Cuppage, Cook's three voyages paved the way for his successors' naval-scientific forays.

The treatment of scurvy in Tierra del Fuego (a sparsely inhabited land south of the Strait of Magellan) in 1519 is discussed. The defeat of the Spanish Armada in 1588 serves as an example of the role of scurvy in naval and world history. Other examples include the use of lemon juice in the Napoleonic wars, the defeat of the French and Spanish at Trafalgar and the successful blockade of the French at Brest. (One learns in London that Nelson fired his naval guns faster, but Cuppage's account may provide an explanation of how he managed to do so.)

Production of more accurate instruments for navigation and microscopy began in the 16th century, and Dr. Cuppage provides fascinating information about such advances made by Captain

Cook and his contemporaries.

In addition to the historical accounts, scientific aspects of scurvy and other vitamin C-related disorders are discussed. For example, the metabolic product of hypervitaminosis C (oxalate) may lead to renal oxalate calculi; in fact, approximately 40%

of oxalate calculi are formed from ascorbic acid. The effect of vitamin C on metal absorption and the biochemistry of L-ascorbic acid/dehydroascorbic acid are included. The brief discussion of nephrocalcinosis suggests a reason why a nephropathologist may have become interested in the topic of this monograph.

One does not have to be a physician to relish the book, but to enjoy it properly a medical background helps. Maps would have been a welcome enhancement. One wishes the author had shared his wide knowledge of many topics with just a few more explanations; e.g., the relationship between Kendall's chronometer and measurement of longitude.

This slim, portable text intertwines seafaring, naval battles, mutinies, wars, expeditions and exploration. Courage, botany, chemistry, the Royal Society and clinical medicine all are admixed wonderfully. The book touches on scurvy in sieges, marches, famines — and even the California gold rush of 1849. It is a stirring book which deserves a wide circulation. I found it a joy to read.

David S. Jacobs, M.D.

Articulations: The Body and Illness in Poetry, edited by Jon Mukand (Iowa City: University of Iowa Press, 1994), 426 pp., \$19.95 paperback.

Readers who enjoy JAMA's "Poetry and Medicine" column and seek other sources of poems about illness will want to pick up a copy of this collection. It includes works by some of America's best contemporary poets, including Howard Nemerov, Joyce Carol Oates, Karl Shapiro, Diane Ackerman, Sharon Olds, and many others. The editor, Jon Mukand, is a poet and physician.

The full gamut of life, illness and death is covered, from obstetrics to geriatrics, birth defects to strokes, and everything in between. The points of view are equally varied, including medical personnel, patients, caregivers, family and friends, men and women. General topics include the body, the hospital, mental illness, disability and social issues.

Each subject area has many facets. For example, the section entitled "Disability: Their Lockstep Tight as Lilac Buds" contains poems by and

about amputees and crippled children, postsurgical disability, a child with birth defects, neurological problems due to cancers, stroke patients, global aphasia, spinal cord injury, osteoporosis, blindness, deafness and sign language. There are some unforgettable people in this collection: an exuberant Mr. Wallace, who receives a chin-operated, motorized wheelchair after 20 years of paralysis and finally feels free; and a boy with severe neurological deficits including nearly unintelligible speech who is writing a novel — his second — set in space.

Many eloquent images will please the reader, such as this one on the nature of sign language: "My voice, plucked from the air, clasped in the interpreter's hands . . . The word, unutterably, made flesh."

Most poems in the "Disability" section share the quality of determined optimism, and some are simply delightful, such as this one by H. N. Beckerman:

To:

The Access Committee,
Attention:
Handicapped Romeo.
There is now a suitable ramp installed at my balcony.
Impatiently,

Miss Juliet

and "The Old Hoofer," by Lillian Morrison:

If my legs cannot move I will wriggle my toes Till they learn To do intricate dances.

Not all of the subjects are physical illnesses, and the section entitled "Mental Illness: The Shadow of the Obsessive Idea" contains some poignant works. "To Make a Dragon Move: From the Diary of an Anorexic" explores the self-revulsion and striving for control that characterize this affliction. Several other poems probe the depths of schizophrenia, paranoia, and life in mental hospitals. A brief work of Langston Hughes elucidates "Suicide's Note":

The calm, Cool face of the river Asked me for a kiss.

Through the poems, physician readers may gain insight into patients' — and their own — perceptions of illness. A copy of this book on the office bookshelf might be just the thing for times when five minutes of quiet reflection make it possible to get through a particularly long day.

Susan Ward

## The "New" Doctor

ARTHUR E. HERTZLER, M.D.

he young doctor naturally took things more seriously than the seasoned old doctor, both because of the desire to establish himself in the community and because of the belief that his services always were of great importance. That is to say, his ignorance approached that of the patient. Then, too, the old



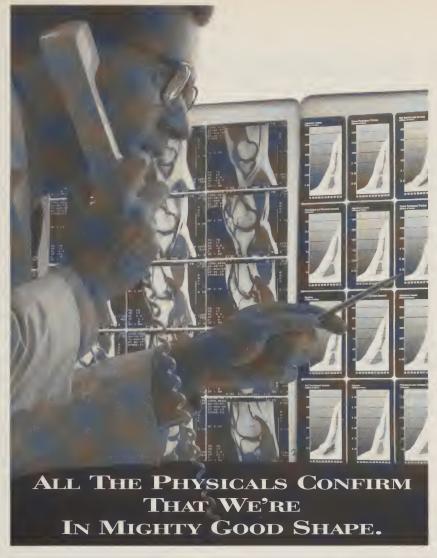
doctor knew the people, both physically and financially, and if the patient's complaints were negative, he had urgent business elsewhere. One

of my first calls will explain why.

A boy came galloping to my house, the horse covered with foam, knees shaking and obviously at the point of dropping in his tracks. The boy, eyes bulging, shouted: "Come quick, Doc. Mother's terribly sick." I hastily hitched my horse and made the seven miles in considerably less than an hour — some driving! I rushed into the house only to find an assortment of women solemnly sitting about the stove doing nothing — except talking, of course.

I asked, "Who's sick?" The lady of the house calmly answered, "Well Doc, I reckon it's me. I ain't really sick, but I've been porely since Christmas and so Pa thought I'd better see a doctor. I didn't feel like riding to town so we sent for you because you are the new doctor." The significance of that last remark escaped me at the time, but I soon learned that they never paid any doctor anything and that the established doctors turned a deaf ear to them. That is the way it is with deadheads. They make their call sound urgent in order to break down whatever sales resistance the doctor may have. Another thing this case taught me was that deadheads will call the doctor for minor ailments, whereas in similar circumstances those who expect to pay will go to his office. In this case the patient's family of ten or more children seemed to be the trouble. Any experienced doctor can tell from these remarks what was wrong with her.

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# Policy for Utilizing Do-Not-Hospitalize Orders in Kansas

atients benefit when they and all the providers of their care have a clear mutual understanding about standards of care. There was a perceived need in Kansas for a better understanding among patients, physicians and nursing homes about what constitutes appropriate hospital admissions, and what circumstances might make transfer to a hospital inappropriate. With this in mind, Andrew Barclay, M.D., of the Department of Family and Community Medicine, University of Kansas School of Medicine, Wichita; the Medical Society of Sedgwick County; and Kansas Health Ethics developed the following "Policy for Utilizing the Do-Not-Hospitalize Order."

Part One: Philosophy of Care

Medical goals. The primary goals of the physician are: to promote healing, to combat disease, to prevent untimely death and to relieve suffering. When possible, the physician should treat to cure and bring about full recovery. However, when the patient's disease process or injury exceeds medicine's ability to bring about recovery, the physician should offer palliation for the patient's discomfort and should help the patient cope with illness, disability and dying. In pursuing these medical goals, the physician must:

a) Uphold the ethical principles of medicine, especially with respect to patient dignity and

utonomy;

b) Observe professional standards of practice.

Patient Autonomy. The principle of autonomy secures for the patient the right to refuse or consent to treatment. The physician must inform the patient about his or her medical condition, prognosis, and treatment options, together with their likely risks and benefits. The physician must respect the patient's right to refuse offers of treatment as well as to accept them.

ment as well as to accept them.

Standards of Care. The patient should respect

the physician's responsibility to determine the appropriate treatments from which to choose, and to offer an optimum care plan that responds to changes in the patient's condition. The care offered to the patient should reflect the physician's

best medical judgment and conform to professional standards. Neither the patient nor the patient's agent may compel the physician to act contrary to his or her best medical judgment.<sup>2</sup>

It should be recognized that the ability to provide high-quality care in a supportive, familiar environment may make nursing home or homecare options such as hospice the preferred treatment setting for some patients.

Futility. When any intervention, including the decision to hospitalize, is medically futile, then there is no obligation to offer it. An intervention is futile if it:

- a) with reasonable certainty will not bring about the patient's recovery from illness, disease or disability;
- b) imposes burdens grossly disproportionate to any foreseeable patient benefit;
- c) will not play an effective role in mitigating the patient's discomfort; and
- d) serves only to postpone artificially the moment of death by sustaining, supplanting or restoring a vital function.

## Part Two: Guidelines Patient Autonomy

- 1. A competent and informed patient may refuse medical treatment, including hospitalization. The patient may express his decision to refuse hospitalization orally or by written advance directives, including the "Living Will," the Durable Power of Attorney for Health Care Decisions, or a treatment directive. When so directed, the physician shall enter a Do-Not-Hospitalize Order into the patient's record.<sup>3</sup>
- 2. A competent patient may orally revoke his/her Do-Not-Hospitalize directive at any time.
- 3. A legal agent for an incompetent patient may refuse treatment on behalf of the patient. (A legal agent is one who has authority through a Durable Power of Attorney for Health Care Decisions.) When so directed, the physician shall enter a Do-Not-Hospitalize order into the patient's record.
- 4. If the patient is not competent to make or communicate a decision, and there are no written directives, the physician may consult with family members or others who may have evidence of the patient's wishes. In such a circumstance, it

Prepared by Kansas Health Ethics, 250 N. Rock Rd., Suite 370, Wichita, Kansas 67206.

remains the physician's responsibility to offer care in accordance with professional standards of practice.

Medical Futility

- 5. When the attending physician has determined that hospitalization is medically futile as defined above, this determination should be documented in the patient's record. The physician should notify the patient or the patient's representative when such a determination has been made. After consultation with the patient or the patient's representative, the physician may enter a do-not-hospitalize order into the patient's record.
- 6. The physician should communicate with nursing staff and other members of the health care team in making a determination about medical futility and in developing a comfort care plan for helping the patient cope with discomfort, illness, disability and dying.

DNH Orders, Protocols

- 7. The rationale for DNH orders and any relevant discussions should be documented in the patient's chart.
- 8. DNH orders and other treatment-limiting orders should be written by the physician according to protocol using the do-not-hospitalize order (see figure). Such orders should be reviewed periodically by the physician and the patient or the patient's agent.
- 9. Any facility which adopts a policy regarding DNH orders should implement a program for educating physicians, patients, staff and the public about the order. The education program should begin before the implementation of the policy and should be a continuing process.

Part Three: Background Information

Changes in the structure and organization of health care and the aging of the population in the last decade have combined to increase the number of persons who reside in nursing homes, extended care facilities and supervised residential settings. In addition, more people are electing hospice care in their own homes or care settings as an alternative to hospitalization during the last days or weeks of their life. Some merely prefer that they not be hospitalized for terminal illness care, preferring to remain in their present environment. Other developments have changed in several ways the context in which treatment limitation decisions, such as the decision not to hospitalize, are made:

1. New technology has increased the number and types of treatment-limiting decisions.

2. There is an increasing emphasis on the patient as the primary decision maker.

3. There is increased use of teams of physicians, nurses and specialists in the care of critically ill patients.

4. Documentation in the medical record is critical in communication and accountability.

Authority. The state of Kansas recognizes the right of individuals or their agents to direct their personal health care in the "living will" declaration; the durable power of attorney for health care decisions; and do-not-resuscitate directives.

The American Medical Association and the Kansas Medical Society have adopted resolutions which:

- 1. acknowledge do-not-hospitalize orders in the nursing home situation, when based on the resident's (or his/her family's) informed consent, providing an appropriate means of promoting patient autonomy and carrying out the express wishes of the resident; and
- 2. encourage physicians to familiarize themselves with do-not-hospitalize orders, utilize them when appropriate, and support all efforts to educate the public about such orders.<sup>4,5</sup>

The Medical Society of Sedgwick County has endorsed in principle these policies for DNH orders.<sup>6</sup>

Part Four: Summary

Kansas Health Ethics recommends that non-acute-care facilities consider adoption of a policy on do-not-hospitalize orders. We further recommend that any such policy should include written provisions for guarding patient autonomy, standards of care, informed consent, education and periodic review. We invite your comments.

#### REFERENCES

1. This policy utilizes language from "Policy for Withholding or Withdrawing Futile Treatments" of the Charlotte-Mecklenburg Hospital Authority, Charlotte, NC.

- 2. A physician is not ethically obligated to make a specific diagnostic or therapeutic procedure available to a patient, even on specific request, if the use of such a procedure would be futile. (Council on Ethical and Judicial Affairs, Guidelines for the appropriate use of do-not-resuscitate orders. *JAMA* 1991;265:1868-71.)
- 3. Although there is no statute relating to refusal of hospitalization, a specific instruction by a patient may be written in the document.
- 4. Kansas Medical Society Resolution 94-19, "Do Not Hospitalize Orders."
- 5. American Medical Association Resolution 215, I-92, "Do Not Hospitalize Orders."
- 6. Medical Society of Sedgwick County, April 26, 1995. See also: Memo, "Do Not Hospitalize," Dr. Andrew Barclay.

## Angioplasty for Myocardial Infarction

DONALD L. VINE, M.D., \* Wichita

he TIMI II trial, published in 1989, helped to establish early thrombolysis as the treatment of choice for acute myocardial infarction, because subsequent percutaneous transluminal coronary angioplasty (PTCA) offered no additional benefit.

Since then, it has become clear that there are many ways to look at balloon angioplasty following acute myocardial infarction. Angioplasty can be performed either early or late following thrombolysis, performed only for patients with failed thrombolysis, or performed instead of thrombolysis. A recent meta-analysis by Michels and Yusuf identified 23 trials comprising 8,496 patients that compared at least one of these strategies with an appropriate control group.

PTCA after Thrombolysis

The largest number of comparisons have been performed to evaluate the benefit of angioplasty as adjunctive treatment to early thrombolysis. Five of these trials compared immediate versus no angioplasty, six early versus no angioplasty, three delayed versus no angioplasty, and three early versus delayed angioplasty. At six weeks, there was an absolute mortality disadvantage to the invasive approach, although the statistical difference was nil. Comparing infarct-free survival after one year, there was still no statistically significant advantage demonstrated for routine post-thrombolytic angioplasty.

Thus, after 17 randomized trials, comprising 7,759 patients, that examine post-thrombolytic angioplasty performed immediately, early or prior to discharge, there has been no demonstrated benefit for an elective aggressive strategy.

Crossover rates from conservative assignment to angioplasty, which ranged to over 40% in some trials, complicate interpretation of these findings. It should also be emphasized that most protocols encouraged angioplasty among patients who re-

sponded suboptimally to initial conservative management.

#### PTCA Instead of Thrombolysis

Contrasting results have been reported for 1,145 patients from seven trials randomized to receive either thrombolysis or angioplasty instead of thrombolysis. After six weeks, the mortality of the conservatively treated patients (6.4%) was nearly twice that of the aggressively managed (3.7%). Similarly, infarct-free survival (93.9%) versus 89%) favored an initially invasive strategy. After one year, the differences were smaller (90.8% versus 89.9%).

#### PTCA for Failed Thrombolysis

Fewer than 200 patients have been randomized to undergo "rescue" angioplasty versus continued conservative management for failed thrombolysis, but the early differences in outcome are even more striking. After six weeks' follow-up, mortality of conservatively managed patients (12.9%) was more than twice that of the invasively managed (5.4%). At the end of the first year, the infarct-free survival continued to favor aggressive management (81.2% versus 76.7%).

#### Comments

Early thrombolysis remains an effective treatment for patients with acute myocardial infarction. If patients requiring subsequent angioplasty for clinical indications are excluded, the performance of routine balloon angioplasty adds little demonstrated benefit in terms of recurrent myocardial infarction or death during the first year.

For patients who can undergo balloon angioplasty within a few hours following onset of symptoms, angioplasty without thrombolysis offers an acceptable alternative to thrombolytic treatment. Angioplasty also remains an attractive and effective alternative for patients with contraindications to thrombolysis.

#### REFERENCE

1. Michels KB, and Yusuf S. Does PTCA in acute myocardial infarction affect mortality and reinfarction rates? *Circulation* 1995;91:476.

<sup>\*</sup>Associate Professor, Department of Medicine, University of Kansas School of Medicine-Wichita.

Address correspondence to Dr. Vine, Department of Medicine, UKSM-W, 1010 N. Kansas, Wichita, KS 67214,

# Uncertain Times: Preventing Illness, Promoting Wellness

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Abstracts for all presentations <u>must</u> be submitted on the abstract submission form which is available from: American Medical Association, Physician Health Program, Attn. E. Tejcek, 515 North State Street, Chicago, IL 60610.

All presenters must register for the conference and will pay the AMA member rate. Presenters will be responsible for their own expenses.

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- Special Feature: 20th Anniversary of the Wichita Campus
- Feature Article: Kansas Women in Medicine
- Teenage Pregnancies in Kansas, 1980-1993
- Geriatric Hearing Impairment and Functional Independence



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## The Little Engine That Thought It Could and Did

D. CRAMER REED, M.D., Wichita

Since this issue commemorates the 20th anniversary of the Wichita Campus of the University of Kansas School of Medicine, it seemed proper to ask the first dean to write the editorial. D. Cramer Reed, M.D., was the only individual who could have successfully brought about the establishment of the Wichita Campus, and both campuses and the medical community owe him many thanks. While we could consume more space outlining his numerous talents and accomplishments, we know he would prefer that we make the introduction brief. Thank you, Cramer, for agreeing to be our guest editorialist. W.E.M.

The "Wichita Branch" started out much like the little engine that thought it could. And there truly were steep hills ahead of it. The initial climb turned out to be a continuing series of meetings with Sedgwick County legislators, Wichita physicians, real estate agents (to help find affordable student housing), hospital administrators, the Wichita Area Chamber of Commerce, Wichita State University administrators, and even a critical newspaper editor from an eastern county in an effort to obtain a consensus for the endeavor and to finalize arrangements for the 15 students from the Kansas City Medical Center who were to comprise the charter class.

During this period, the continuing support of individuals such as A. B. (Jack) Davis at Wesley, John Holmgren and the late Joe Heeb at St. Joseph and Sister Agnes Marie at St. Francis encouraged those closest to the developing school to have "one more meeting" before deciding it just wasn't possible. Later, after the students arrived, these same institutions offered to provide noon meals for them, along with classrooms, lockers and student meeting rooms.

Obviously, the clinical branch, now retitled the Wichita Campus, did not evolve in isolation from the Kansas City medical center. Several KUMC administrators including E. B. Brown, Registrar; Walt Gehlbach, Director of Admissions; Pat Head, of the Medical Center Alumni Office; and Executive Vice Chancellors Bob Kugel and Bill Rieke were very supportive and helpful, as were faculty members such as Kermit Krantz, Jack Walker and Marvin Dunn, to name only a few. But for several of the basic science and some clinical faculty members, the new off-campus clinical program caused much concern, if not outright angst.

Such reactions were not without basis, because the Wichita clinical faculty and administrators were essentially "home grown" and consisted of two general groups. The first was made up of successful practitioners, most of whom had no prior experience in developing or teaching in an undergraduate medical education curriculum. Surgeon George Farha, psychiatrist George Dyck, internists Ernest Crow and Walker Butin, pathologist Bill Reals and radiologist Si Hershorn were prominent in the beginning and made outstanding contributions to the cause. And there were other community physicians who also labored to complete the curriculum. Without these people, the little train could never have made it. With a total operating budget of less than \$200,000 in 1973, it is obvious that for the most part these clinical department heads served pro bono, as did virtually all other physicians early on and even today. Because of the demands of private practice, most of the organizational objectives and curriculum work had to be addressed after office hours and on weekends.

Fortunately, Dan Roberts from the Texas medical education system; Doug Voth, originally from the Medical Center; diabetologist and pediatrician Dick Guthrie from Missouri; and others made significant credibility contributions early on, keeping the engine chugging uphill.

Several Kansas City Campus academic colleagues provided us with topical course outlines and helpful suggestions. They participated vigorously in joint faculty meetings held periodically in Emporia, Kansas City and Wichita.

The second group of Wichita education mavericks (my title for a group of special people) did not consist of the usual mix of administrators, as many were Ph.D. types. For example, the Direc-

tor of Student Services was recruited from the Wichita State University English Department. The Director of Research, a former professor of electrical engineering, was also from Wichita State. The Director of "Rural Outreach" had his terminal degree in European history, and the Director of Business Affairs and Personnel was pursuing her M.B.A.

Bill Reals and Joseph Meek, the immediate past Vice Chancellor and current Dean, respectively, have reviewed the archives of the Wichita Campus and have prepared a chronology published in this

issue that many will find interesting.

Several of the policies and curriculum components established in the very beginning (such as Introphase) have withstood the test of time and continue to be employed today. The 1995 rural outreach program has, of course, been expanded and refined, yet it encompasses several features promulgated 21 years ago. And Lorene Valentine, the original Director of Business Affairs and Personnel, completed her "tour of duty" in 1992 as the Associate Dean for Administration for the Wichita Campus.

From the very beginning, a substantial effort was made to touch base with family practice physicians and specialists regarding concepts and organizational progress of the Wichita campus with the hope that the "town and gown" syndrome might be avoided. For the most part, I believe such efforts were successful and continue to be so, even with the addition of significant numbers of full-time teaching faculty at the Wichita Campus.

Sometime prior to the assignment of the original class of students to the Wichita Campus, a few adventurous juniors and seniors came to Wichita for electives and clinical clerkships in surgery and ob/gyn. Following those limited exposures, there were additional requests for Wichita electives in other specialty areas. Such expressions of interest were partially responsible for the Legislature and the Board of Regents giving further consideration to establishing a clinical branch in Wichita.

The first students and a few spouses arrived in Wichita on a wintery Saturday in January 1974. They were greeted in the "branch" offices on the fifth floor of Fairmount Hall, a dormitory on the campus of Wichita State University. At that time, they signed in and finalized living arrangements, many of which had been sought out by local student services. Spouses were briefed regarding job opportunities, these also having been researched

### A substantial effort was made to touch base with family practice physicians and specialists.

by the Director of Student Services, the wonderful Hazel Fenske, who soon became the "house mother" to every student coming to Wichita until her retirement in 1985.

Our philosophy called for administrators and faculty and even the clinical volunteers to become personally involved in the well-being of the students. My wife felt so strongly about this that she had a series of student-faculty gatherings in our home, which in addition to providing appreciated nourishment, did much to build camaraderie. Early on, when the classes were small, each student and spouse became known personally to department chairs and to my wife and me. Such activities and the "we're all in it together" spirit of the faculty, did much to remove the anxiety of reluctant students lotteried to come to "Cowtown USA."

Initially, a team composed of Wichita faculty and students traveled to the medical center prior to the lottery process to "market" the Wichita experience. It wasn't long, however, before this was no longer necessary, because increasing numbers of students elected to transfer to Wichita for their clinical rotations and electives.

Clinical rotations with rural physicians, often assisted by a physician assistant and/or nurse practitioner, were very well received and successful. Much of the credit is due to the physicians who agreed to accept the student, not only in their practices but also literally into their own homes. However, much credit is also due to the cowboy-booted Ph.D. European history professor who made assignments and rode herd over the students' clinical experiences.

More could be recalled of the early years, and some might even be of interest to the casual reader. Suffice it to say that had we been better informed, more experienced, and perhaps less emotional in our support of medical education in a previously non-academic setting, we would probably never have attempted to form a clinical medical school of the scope and sophistication that best describes the Wichita Campus today. Fortunately, the mavericks blundered on. Now

the community and its numerous physician and non-professional health care volunteers who have made and continue to make significant contributions with little or no pay have been rewarded with one of the best, most stable communitybased medical schools in the country.

While it has been successful in helping to increase the number of physicians practicing in non-urban locations, it is my (perhaps biased) opinion that the University of Kansas School of Medicine-Wichita will have an even greater impact on the future health care of Kansans by virtue of the ongoing significant changes in medical education emphasizing the importance of a continuum of primary care education. The principal beneficiaries will be the citizens of Kansas. We believe that in terms relative to the history of community-based medical schools, the Wichita Campus has succeeded far beyond reasonable expectations.

The little engine did make it to the top and now must push on as a true partner with the Medical Center in producing physicians firmly based in the fundamentals of medicine, technically trained, yet skilled in the humanistic application of total health care for citizens of all ages.

### **COVER STORY**

he 20th anniversary of the University of Kansas School of Medicine–Wichita was observed at festivities held on the campus in June. The school's deans appear in the cover photo: Founding Dean D. Cramer Reed, M.D. (1971–78); William J. Reals, M.D. (1980–90); and Joseph C. Meek, M.D. (1991–present). Richard A. Walsh, M.D. (1978–80) is not pictured.

In observance of the anniversary, this issue of the journal features papers from several departments at the Wichita campus.

#### CORRECTION

The Summer 1995 cover story about the DNA molecule should have included the following information: cover art by Hillary Tranter, copyright *Nature Genetics*, 1993. KANSAS MEDICINE regrets the omission.

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In January 1935, a new logo appeared on the cover of Kansas Medicine for the first time. This device represents two stethoscopes: the original monaural type as used by Läennec, and the modern binaural variety. The logo was designed expressly for Kansas Medicine by renowned graphic designer Bradbury Thompson, a native of Topeka and friend of two former editors of the journal, Dr. W.M. Mills and Dr. Lucien Pyle. As another former editor, Dr. Orville R. Clark, wrote in January 1955, the logo "has become as much a part of the journal as any of the features on the inside and is something which is ours alone."

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## The Kansas Physician's Role in Medical Education

Recently I had a very interesting week, one of reflection about the education of young physicians. As President of KMS, I had the privilege of addressing the entering class at KU School of Medicine. What an exciting time — what an inspiring time



— as these students begin their journey into the medical profession. Despite my being the last speaker of the day, these bright young people listened attentively (just prior to being free to go to the activities fair and eat free pizza!) as I welcomed them to the Kansas family of physicians and introduced them to organized medicine. I spoke of the relationship with medical students that we as practicing physicians cherish, and of our desire to participate in their education in ways additional to the learned teachings of the University's professors. They seemed to welcome the invitations. Large numbers immediately joined KMS and the AMA that day — and asked how they can become involved.

As I drove home, I reflected on the role we as Kansas physicians can have in helping these young physicians to develop. It soon became apparent that probably many of us have already touched some of these students' lives. When did the spark ignite that led these students into our profession? (When did you make your commitment to a life of medical service?) For many, it comes from some encounter with a physician — be it a brief meeting or a long relationship with a physician role model. Some of us will not even know we have had such an impact, but isn't it exciting to think we may have been part of the stimulus to begin these careers?

A later stage when we may have influenced these students was during their application and selection for medical school. Many of us have had the unique opportunity to serve on KU's medical school interview panel — a great responsibility. When called upon, each of you has undertaken this task seriously and with a high degree of commitment to doing the absolute best job possible. I think one of the greatest privileges and responsibilities we have as physicians is to help decide who

is asked to enter our profession. The responsibility, the personal reflection that is required, cannot be totally perceived until you have been involved in the process. Who better than a practicing physician to ask, "What does it take to be a really great physician — what intellectual capabilities, what personality traits, what personal skills?" — and a host of other determinants. The first time I interviewed medical students was probably the most meaningful event in my practice life up to that time. I had to truly reflect on what my profession meant to me, how it had evolved as the years passed, and what qualities I or my colleagues possessed that I wanted to see in future colleagues — and what traits were undesirable.

Also last week I met with Assistant Dean for Admissions Sandra McCurdy, Executive Dean Daniel Hollander, M.D., and Associate Dean of Student Affairs Herbert Swick, M.D., to discuss the admissions process. I stressed the feelings I expressed above and was assured that KMS physicians would continue to serve as interviewers as part of the admissions process. I am certain there will be some change from the previous format as its strengths and weaknesses are analyzed, but it is certainly my opinion that the input of practicing physicians across the state must be preserved as integral to the effectiveness of the process.

Other changes will probably come as we interact with medical students. Many Kansas physicians have had the experience of serving the profession and touching students' lives by serving as KU preceptors. As most know, this is a highly respected and popular rotation started decades ago by Chancellor Murphy. Now, as the University prepares for the implementation of the new primary care initiative, students will go out into the state as part of their rotations, in addition to participating in the traditional preceptorship. In this way, Kansas physicians will probably have more opportunities to contribute to the educational process.

As I analyzed the contributions Kansas physicians have made to the education of our students, I was filled with a great sense of pride. You have

(Continued on page 116.)

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### The Other Woman in Medicine

When I heard that this issue would contain a feature story on Kansas women in medicine, I wanted to contribute something appropriate. Not to be insensitive to the Alliance's male members, whom we greatly appreciate, but this column is dedicated to the "other woman" in medicine.



Let me clarify. If you are a married male physician, have you ever given any thought to how your occupation affects your wife? After being married to a medical student, resident and physician for nearly 20 years, I feel very qualified to speak for all of us other women.

The other woman in medicine quickly becomes very well versed in medical matters, whether or not she has a medical background. Ask any wife who has been to a dinner party attended by many physicians. She stands by while she hears of Mrs. Jones' gallbladder, Mr. Smith's urinary problems, and the difficult delivery of Baby James — not to mention the pleasure of eating dinner while discussing an unusually messy recent surgery. To be an active participant in this conversation, the other woman must keep up with *ER* and *Chicago Hope*.

The other woman in medicine must keep a current driver's license because she seldom is able to accompany her husband anywhere. It's common to receive a phone call from one's mate, who's "tied up" or "running late" and will "just meet you there." You must also act as chauffeur on any lengthy trip because this is a great time for CME study, journal reading or dictating.

The other woman in medicine learns quickly how to field medical phone calls. The caller may be a patient who informs the other woman of all her ills, expecting her to know the answers (after all, she must have great knowledge since she lives with a physician). It might be someone trying to speak with the doctor on his day off, or a caller with a problem in the middle of the night.

The other woman in medicine must be chief care giver at home. She doctors her own children

because her husband turns to mush around them, and his brain shuts down. She's often a single parent and is great with reasons why Dad can't be there. This is especially true during medical boards and recertification month. The other woman in medicine dreads this time as much as the physician does.

Still, the benefits of being the other woman in medicine far outweigh the negatives. Being a physician spouse gives one an understanding of how important good medical care is to a community. It gives one a sense of pride in knowing one's spouse helps so many people. It gives one an organization to join for support and community service: the Kansas Medical Society Alliance.

Our organization is a constant support group for medical families in need. Whether one has a pending medical malpractice suit, a sick loved one, or some other problem, no one group that the other woman in medicine can belong to understands better the special needs that the medical family sometimes has.

The Kansas Medical Society Alliance continues to work hard for AMA-ERF to help support needy medical students. The county alliances support women's shelters, child abuse awareness and breast cancer awareness projects, health fairs and many other causes in their communities. Alliance members constantly follow legislative issues and relate these to their physician spouses. Each February the Alliance devotes a two-day meeting to legislation so we can keep informed and keep you and the community informed.

If you are a physician who loves an "other woman" in medicine, please support her membership in the Kansas Medical Society Alliance. The benefits to her and the support of other "other" women who understand her unique marriage will be tremendous.

Do I like being the other woman in medicine? You bet I do!

Hisa Barker



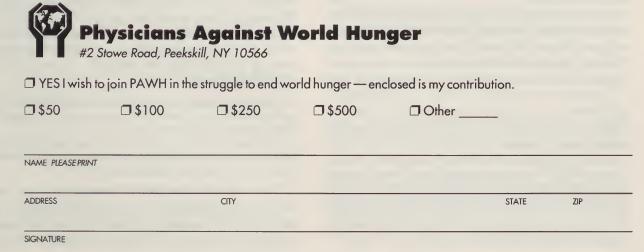
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World hunger is an ever-present scourge that claims 35,000 lives each day.

Access to food constitutes a human right. In 1976, the United States Congress passed a Right to Food Resolution which declared the sense of the congress to be "that all people have a right to a nutritionally adequate diet".

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Please join us — together physicians must help bring an end to world hunger.



Please forward your tax deductible contribution to Physicians Against World Hunger #2 Stowe Road, Peekskill, NY 10566

## Garfield University and the First Medical School in Wichita

ERNEST W. CROW, M.D.,\* Wichita

he University of Kansas School of Medicine at Wichita, which opened in 1974, was not Wichita's first medical school. During the 1880s, the Christian Churches of Kansas voted to establish an institution of higher learning in Wichita, and construction began in July 1886. The building was a five-story structure of pressed brick and stone, 234 by 200 feet in size, with a spectacular tower about 200 feet tall. It was designed by the architectural firm of Proudfoot and Bird and built at a cost of \$200,000.2 The school was named in honor of the late President James A. Garfield. W. B. Hendryx, pastor of the Central Christian Church in Wichita, was said to be "the leading spirit" in developing the school and was the first president of the Garfield University Board of Trustees.3 According to Hendryx's daughter, her father and Garfield were roommates at Hiram College in Mentor, Ohio.<sup>4</sup> The university was built on land at the junction of Mentor and Hiram streets, named by W. B. Hendryx for his home town and his college.

Garfield University opened for classes in September 1887, led by Chancellor H. W. Everett, a graduate of Oberlin College. The building was not complete (see figure), so classes were conducted temporarily in a nearby structure.<sup>5</sup> The school opened with high expectations and presented a diversified curriculum which included law and medicine.

By late in the 19th century, scientific medicine was accepted by increasing numbers of physicians as knowledge of the works of scientists such as Virchow, Koch and Pasteur became more widespread. Laboratory medicine, including the use

of the microscope for examination of tissue, was commonplace in progressive medical communities. Wichita physicians under the leadership of Dr. Andrew Fabrique began meeting regularly to study pathology. This group was formalized in 1888 as the Wichita Pathological Society.6 According to Bonner,7 "Kansas was the plague spot of the nation in its indiscriminating licensing of doctors." Wichita was no exception. There were many practicing medicine who were poorly trained — and some were outright quacks.8 The stated purpose of the Wichita Pathological Society directly addressed the problem by pledging "to study the advancement of medicine and to enlighten the people of Wichita about quacks and unethical doctors."9

Several medical schools were started in Kansas following the Civil War, and most were proprietary. Bonner states that "scarcely a city of any size in Kansas escaped the organization of a medical college though few went beyond the charter stage."<sup>10</sup>

Wichita's first medical school opened at Garfield University on October 1, 1889. Dr. Fabrique was undoubtedly instrumental in starting that department, since he was president of the Wichita Pathological Society and that group became the majority members of the medical school faculty. Although it was also called the Wichita Medical College, the Garfield University 1887-88 register lists medicine as one of its departments. The establishment of a medical department at Garfield University was editorially supported by the *Kansas Medical Journal*. The editorialist stated:

"We are personally acquainted with several of the faculty, and frankly say they deserve the support of the profession of the state and adjoining states.

As a faculty, it contains some of the best men in Kansas. They are educated gentlemen, progressive, up in the profession, and we think have staying qualities."<sup>12</sup>

The 1888-89 Garfield University Register announced the opening of the medical school and stated, "Our location and our railroad facilities are such as to make Wichita accessible to more

Acknowledgments: Jane Griffith, George Farha Medical Library, UKSM-Wichita; Genealogy Dept., Wichita City Library; Jaime Tracy, Wichita-Sedgwick County Historical Museum; Max Bernson and Avis German, Edmund Stanley Library, Friends University; Dr. Phillip Nagley, Curator, Reeve-Fellow Museum, Friends University; Susan LaForce, Internal Medicine, UKSM-W.

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Garfield University, 1887. Note that the entrance and most of the building were unfinished. (Photo courtesy Wichita Sedgwick County Historical Museum)

people of the Southwest than any other city of the state and therefore better situated for establishment of a medical college." The published goal was to "elevate the standard of medical education. The course of instruction will consist of didactic lectures, quizzes, recitations and laboratory work." <sup>13</sup>

Å three-year curriculum was planned. The following departments were listed in the register: anatomy (2 years); physiology; medical chemistry and toxicology; normal and pathological histol-

### TABLE 1. GARFIELD UNIVERSITY MEDICAL FACULTY, 1887-88

H.W. Everest, A.M., LL.D., Chancellor

J.E. Oldham, M.D., Dean, Diseases of Women and Children and Clinical Gynecology

T.A. Graham, M.D., Theory and Practice of Medicine and Clinical Medicine

A.H. Fabrique, M.D., Obstetrics and Clinical Gynecology K.F. Purdy, M.D., Principles and Practice of General and Clinical Surgery

J.S. Foote, M.D., Physiology and General Pathology Samual Ayers, A.M., M.D., Operative and Minor Surgery, and Diseases of the Rectum

F.L. Hinsdale, M.D., Descriptive Anatomy and Clinical Surgery

W.E. Shastid, A.B., M.D., Medical Chemistry and Toxicology

George Emerson, M.D., Orthopedic Surgery

### Materia Med. and Therapeutics

S.A. Buck, M.D., Hygiene and State Medicine W.A. Jordon, M.D., Surgical Anatomy and Pathology and Clinical Surgery

### TABLE 2. Garfield University Medical Faculty, 1888-89

C.C. Furley, M.D., Professor of Anatomy and Clinical Surgery

W.H. Wells, M.D., Professor of Diseases of the Mind and of the Nervous System

C.E. McAdams, M.D., Professor of Diseases of Children and Clinical Medicine

J.D. Van Nuys, M.D., Professor of Physical Diagnosis and Clinical Medicine

E.E. Hamilton, M.D., Professor of Ophthalmology and Otology

C.G. McCollough, M.D., Professor of Obstetrics and Diseases of Women

G.M. Bibbee, M.D., Professor of Genito Urinary Diseases and Dermatology

J.H. Fordyce, M.D., Professor of Physiology J.Z. Hoffman, M.D., Demonstrator of Anatomy

ogy; theory and practice of medicine; surgery ("the various operations in surgery will be demonstrated on the cadaver"); obstetrics ("obstetrical operation will be demonstrated on the manikin"); gynecology; physical diagnosis and clinical medicine; materia medica and therapeutics; diseases of children; diseases of the mind and nervous system; ophthalmology; and otology. The register reported that "clinical instruction and study of disease at the bedside will constitute an important feature." St. Francis Hospital and The Wichita Hospital were listed and "will be the services of the medical school in its clinical material."

The faculty members listed in the 1887-88 register are listed in Table 1.<sup>14</sup> The register for the 1888-89 session listed the same faculty, except for Dr. Ayers, and added the physicians listed in Table 2. The requirements for admission as enumerated in the 1888-89 register appear in Table 3.

Financial problems plagued Garfield University from its start. It closed in 1890, received a short reprieve, and reopened for a few months under a new charter as Garfield Central Memorial University, 15 before closing permanently. It had not operated long enough to graduate any students.

After lying unoccupied for several years, the Garfield property was purchased by a St. Louis investor, James Davis, who deeded it to the Society of Friends. Friends University opened in 1898, and the original Garfield building, now named Davis Hall, remains the hallmark building of the campus and a well recognized Wichita landmark.

The only remaining medical college in Kansas is

### TABLE 3. REQUIREMENTS FOR ADMISSION, 1888-89

Any one of good moral character who can present evidence of a good English Education may become a first year student of this school.

#### EXPENSES:

EIN EI (OEO.	
Fee for matriculation	\$ 5.00
Fees for full Course of Lectures	\$50.00
Fees for Final Examination	\$25.00
Demonstrator's Ticket with Material	\$10.00
Ticket for Single Lectures	\$10.00
All fees payable in advance.	
Special course in Chemical and	
Histological Laboratories	\$10.00

the thriving University of Kansas Medical School, with campuses in Kansas City and Wichita. An interesting coincidence is that the official Kansas Secretary of State registration of Garfield University in 1886 was signed by Secretary of State E. B. Allen, a pioneer physician for whom the E. B. Allen Hospital was named. The renovated E. B. Allen Hospital now houses the University of Kansas School of Medicine's Wichita campus.

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### PRESIDENT'S MESSAGE

(Continued from page 110.)

truly given of yourselves and your talents. Usually, the reward is simply the personal satisfaction of knowing you have contributed to the lifelong educational process of our young physicians.

Let us all continue to avail ourselves of every opportunity to touch bright young minds and share with them that spark that led us to our calling. Let us continue to share our knowledge with today's students, to let them view the physician-patient relationships that most of us have spent our practice lives developing. And let us always share with them the joys that make the practice of medicine a true art.

Linds Warren, MD

### **CARDIOVERTER-DEFIBRILLATOR**

(Continued from page 124.)

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### University of Kansas School of Medicine-Wichita: Twenty Years and Beyond

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Before the turn of the century, Wichita was a prairie outpost on the Arkansas River. It boasted hotels, saloons, livery stables, churches, elementary schools — and the Wichita Medical College, an institution with a career so brief it closed before graduating a single student. Nevertheless, it represented the first effort in the city to educate young men (no women in those days) to become physicians. As Wichita grew, doctors of medicine moved there, most notably the famous Dr. Andrew Fabrique, the founder of medical practice in Wichita and the surrounding area. His influence reached into the 20th century because of his leadership, knowledge and medical skills.

Due to the number of physicians (some of whom were Civil War veterans) arriving to practice in the city, hospitals were built. These included St. Francis Hospital, now St. Francis Regional Medical Center; the Wichita Hospital, which today is the modern St. Joseph Medical Center; and the Wesley Hospital, now Wesley Medical Center. All three institutions continue their long tradition of caring for the sick and providing medical education within their walls.

By the turn of the century, Wichita had a reputation for excellent medical care, given the strictures and limitations of doctors and hospitals at that time. For the first part of this century, citizens of the state looked to the Kansas University Medical School in Kansas City for leadership, and the medical school possessed great influence as a source of medical education, postgraduate training and continuing medical education for practitioners throughout the state.

Following World War II, the University began a series of postgraduate training programs that were carried to the practicing physicians in their home towns by a distinguished faculty, who made the trips to introduce the state's physicians to the latest techniques.

### The Foundation Is Laid

In the 1960s, unrest grew throughout the state due to the lack of physicians in many smaller towns, especially in central and western Kansas. As older physicians retired or died, they were not replaced by young physicians. Political pressure began to build as residents of smaller cities complained to their legislators of the lack of health care, or the long journeys required to reach a medical center.

During debates in the Kansas Legislature, proposals surfaced for a four-year medical school in the Wichita area. In 1969, a proposal by the University of Kansas was approved by the Board of Regents and the Legislature to accomplish reforms, including shortening the medical school curriculum to three years, thus graduating more physicians. Additional changes included an increase in class size at the University of Kansas School of Medicine from I25 to 200 students, establishment of a Department of Family Practice, and extension of residency training to all campus sites.

In November 1970, the University of Kansas Medical Center requested approval for expansion and development of health education programs in Wichita and Topeka to help counteract the doctor shortage. The Board of Regents took the proposal under advisement.

In 1971, discussions took place involving the Medical Society of Sedgwick County; hospital officials; Dr. D. Cramer Reed, then Dean of the Wichita State University College of Health Related Professions; and Dr. William Rieke, then Vice Chancellor of the University of Kansas School of Medicine. These discussions resulted in the formation of a medical society advisory committee to investigate the feasibility of a medical school in Wichita.

In September 1971, the Board of Regents authorized the creation of the Wichita State University Branch of the University of Kansas School of

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Medicine and recommended funding for a oneyear budget. Dr. D. Cramer Reed was named as Dean, while still retaining the title of Dean of the College of Health Related Professions. The development of the Wichita Branch, in conjunction with increased student population and curriculum changes at the KU Medical Center, was a major effort to increase the number of Kansas physicians in training and thus to produce more graduates who might seek practice sites in the state. In December 1971, the Board of Regents gave approval to Drs. Rieke and Reed to begin development of the organizational structure of the Branch. It was to be a community-oriented medical school, utilizing the excellent clinical facilities already available in Wichita's hospitals.

In January 1972, Governor Docking asked the Legislature for full funding of the WSU Branch. As a result, nine full-time faculty positions were funded for a total budget of \$153,000. In August 1972, headquarters for the school were established in a small cottage at 3720 E. 17th Street, close to the Wichita State University campus. By February 1973, three departmental chairs were appointed: Dr. George Farha, Chairman of Surgery; Dr. Daniel Roberts, Chairman of Obstetrics and Gynecology; and Dr. Richard Guthrie, Chairman of Pediatrics.

In March 1973, a bill in the Legislature proposed the transfer of the E. B. Allen Memorial County Hospital to the state for use by the new branch. The bill died in committee the following month.

### Growth and Accreditation

The small cottage on the WSU campus that housed the branch became inadequate, so the school and its headquarters were moved to the fifth floor of the Fairmount Towers dormitory adjacent to the WSU campus. Shortly after the move, Dr. George Dyck was appointed Chairman of the Department of Psychiatry.

In January 1974, the school came of age with the arrival of the first class of 15 medical students to begin their clinical training at the WSU campus of the University of Kansas School of Medicine. Later that year, Dr. Douglas Voth was named Chairman of the Department of Internal Medicine.

In the fall of 1974, the Liaison Committee on Medical Education (LCME) made an accreditation visit to the University of Kansas School of Medicine in Kansas City, and part of the team visited the University of Kansas campus in Wichita. The University was later informed that both campuses were fully accredited for the education of physicians.

At commencement at the University of Kansas in May 1975, 14 graduates of the Wichita campus received their M.D. degrees. Later that year, Dr. D. Cramer Reed was promoted to Vice Chancellor for the campus. Also in 1975, the continuing growth of this campus forced the medical school to relocate from the Fairmount Towers.

### A Home of Its Own

Sedgwick County entered into a contract with the school for the campus to move to the E. B. Allen Memorial County Hospital at 1001 N. Minneapolis. The school leased the clinic area, the third floor of the main building and the second floor of the annex. The move to E. B. Allen was to be temporary pending completion in 1979 of a new health science building on the WSU campus. But in their meeting in December 1977, the Board of Regents decided that the medical school should remain at the Allen Hospital instead. Plans to share the building with the College of Health Related Professions had not proved feasible, due to the continuous growth of both institutions.

In June 1978, Dr. Reed resigned as Vice Chancellor and Dean, and Dr. Richard Walsh was appointed to succeed him.

By 1979, the recommendations of the Interim Committee on Medical Education in the Kansas Legislature approved the E. B. Allen Hospital as the permanent home for the University of Kansas School of Medicine-Wichita. A three-phase, \$4.2 million renovation plan was tentatively approved. In that same year, an extensive search for a Family Practice Chairman was concluded with the appointment of Dr. E. P. Donatelle.

By 1980, the University of Kansas School of Medicine in Wichita assumed full educational responsibility for the Wesley Family Practice Residency Program, and a family practice center had opened in the Medical Arts Tower at 3243 E. Murdock. In May 1980, Dean Richard Walsh resigned, and in July Dr. William J. Reals was named Dean.

In March 1981, Dr. Neil Roach was named Chairman of the Department of Psychiatry, replacing Dr. George Dyck, who had resigned. In that same year, Dr. Richard Guthrie resigned as Chairman of the Department of Pediatrics in order to take a sabbatical at the University of Miami. In June, the long-awaited renovation of the Allen

Hospital began with the first of a three-phase program. Faculty, staff and students endured dust, noise and dislocation as the renovation program proceeded.

Faculty and Administration

Much progress has been made since the 1968 suggestion to expand medical education in Kansas. The faculty has grown from three chairs in 1973 to 65 full-time and 65 part-time members. There are 574 volunteer faculty members as well. The school employs 110 unclassified and 66 classified personnel. As of June 1, 1995, a total of 889 medical students have completed their clinical training in Wichita.

Since July 1981, the school has been operating at full capacity, with a total of 100 medical students in two classes of 50 each. In 10 years, the budget has increased from \$153,000 to \$13 million. The long course from the original concept of medical education in Wichita to 1995 spans 20 years of progress serving the needs of medical education, as well as providing expert medical care in the outpatient clinics and offering continuing medical education for physicians in the city. The school is involved in health care outreach in a variety of ways, and it supports facilities and scientists engaged in biomedical research.

A major development in 1989 was the formation of the Wichita Center for Graduate Medical Education (WCGME), an organization of the medical school and area hospitals that acts as an administrative and financial agent to serve the needs of all the residency programs in the city. WCGME is composed of the following residency programs: three family practice programs, pediatrics, surgery, obstetrics and gynecology, psychiatry, radiology, anesthesiology, internal medicine and orthopedic surgery. The school is fortunate in having Mr. Bill Kimble, who served a number of years as Vice President for Medical Education at Wesley Medical Center, as the center's director. He possesses an extensive background in graduate medical education, and under his supervision the center manages 241 residents and a budget of \$12 million annually. The WCGME is unique in that the school sought and obtained permission from the Health Care Finance Administration for the pass-through for medical education to be sent to the center via the individual hospitals. Thus, by commingling resources from the federal government and other sources, the program is well managed. The center has decreased the need for hospitals to maintain separate staffs to direct, adDespite these successes, challenges await the school as we consider the future of medical education.

minister and monitor the residents. The entire process of matching residents for Wichita's hospitals is now carried out through this office and has been remarkably successful in enhancing the graduate medical education programs.

The campus is now complete and comprises research laboratories, classrooms and a large patient clinic. It is linked to the University of Kansas Medical Center in Kansas City by a two-way video system for conferences and meetings.

Two new buildings are soon to be added: the Kansas Health Foundation Center for Primary Care and the Daniel K. Roberts Women's Research Institute. Both will be connected to the main building. In addition, Sedgwick County is building a forensic science center just north of the campus to house the county coroner's office and to serve as a laboratory for the investigation of sudden and unexplained deaths and for other forensic needs.

### Into the Future

The medical school at 20 years of age is at the dawn of a new era. Many changes are underway, not only in medical education but also in medical practice, with emphasis on treatment outside the traditional hospital and more care in outpatient facilities. Fortunately, the school, through its graduates and close linkage with the Kansas City campus, is in a position to stay abreast of changes, to monitor new developments, and to pass on this information and knowledge to its students, residents and staff.

With the opening of these additions to the campus, the dream of the founders to create a complete and fully functional clinical campus for medical education will be realized. From basic biomedical research to community education of health professionals, UKSM-W is now an established academic health center. Students entering the Wichita program in their third year of medical education can find a high-quality, clinically rele-

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vant, comprehensive medical program that will shepherd them through their training and into a well prepared career for a productive medical practice.

Despite these successes, challenges await the school as we consider the future of medical education. The current foundations of medical training based on inpatient education at tertiary care institutions are being replaced by new structures embracing ambulatory care, with a heavy emphasis on comprehensive, first-encounter medicine delivered in a cost-effective manner. More and more, medical education will be constructed about a tight-knit unit of physicians and other health care providers who promote prevention of illness and maintenance of healthy life styles as the mainstay of a cost-effective health care delivery system. The purchasers of health care will, to an increasing extent, determine the quantity, availability and delivery of health care. The role of the physician in this new paradigm is far from clear but it will be changed.

As it moves into the next century, an academic health education center such as the University of Kansas School of Medicine and its clinical campus in Wichita will be required to develop new strategies for medical education and research in order to maintain its current strength as a premier state-supported institution.

Fortunately, the school has recently been the recipient of a major grant from the Kansas Health Foundation, which will enable both campuses to provide the needed changes in medical curriculum to allow the education of our students to stay relevant and current. Moreover, the grant will, for the first time, allow the University of Kansas Medical School to become a true partner with all the educational, research and care-giving institutions in the state.

Ultimately, Kansas has an opportunity to become a national model in a new format for medical education. From high school to community practice, from college preparation to addressing new health care needs of Kansas' citizens, from technologically sophisticated procedures to humanistic application of total health care, from new knowledge bases in fundamental biocellular functions to population-based, quality health care programs, the University of Kansas School of Medicine will be able to move freely throughout the State of Kansas to bring the kind of medical education to our students which ensures that the Kansas-trained physician of the future will measure up to the standards set by our predecessors.

### Implantation of Transvenous Implantable Cardioverter-Defibrillator by Electrophysiologists: One-Year Experience

ROBERT T. TUNG, M.D., \* AND ASHOK K. BAJAJ, M.D.

implantable cardioverter-defibrillator (ICD) has been proven effective in reducing the incidence of sudden arrhythmic death in patients with life-threatening ventricular arrhythmias.<sup>1,2</sup> Since its clinical introduction by Mirowski et al.,<sup>3</sup> ICD technology has evolved significantly. With recent availability of two transvenous lead systems (CPI Endotak-C tripolar lead, Cardiac Pacing Inc., St. Paul, MN; and Medtronic Transvene lead, Medtronic Inc., Minneapolis, MN), most ICDs could be implanted without thoracotomy by electrophysiologists. 4,5,6 Prior to February 1994, at Wesley Medical Center and St. Francis Regional Hospital in Wichita, all ICDs were implanted in an operating room by surgeons with the assistance of an electrophysiologist. This report summarizes the first year's experience of transvenous ICD implantation by electrophysiologists in an electrophysiology laboratory.

### Methods

Patients. From February 1994 to January 1995, 34 consecutive patients undergoing an ICD implantation were included in this study. Patients' characteristics and baseline electrophysiologic data are summarized in Table 1. All patients underwent baseline electrophysiology studies except those whose medical conditions prohibited such studies, or whose arrhythmias required empirical antiarrhythmic therapy. The aim of electrophysiology study was to rule out causes

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303 Wichita, Kansas 67208. OSA The authors wish to thank Kathy Collmann, R.N., Michele Longabaugh, R.N., and all the dedicated nurses and technicians in the electrophysiology laboratories at Wesley Medical Center and St. Francis Regional Hospital, Wichita. Thanks also to Sara J. Brown, R.N., and Tracy Trujillo, R.N., for telephone interviews and follow-up data collection.

### TABLE 1. PATIENT CHARACTERISTICS BASELINE **ELECTROPHYSIOLOGIC FINDINGS**

Male:Female Age, y (range) Coronary artery disease LV ejection fraction	27:7 58 ± 18 (22-81) 24 (71%) 33 ± 14%
Clinical arrhythmias SMVT VF Syncope ± NSVT	19 (56%) 14 (41%) 1 ( 3%)
Baseline EPS Induced Arrhythmias SMVT PMVT/VF	29 (85%) 18 4
Noninducible Empirical AA therapy	7 5

Abbreviations: LV = left ventricle; SMVT = sustained monomorphic ventricular tachycardia; VF = ventricular fibrillation; NSVT = nonsustained ventricular tachycardia; EPS = electrophysiology study; PMVT = polymorphic ventricular tachycardia; AA = antiarrhythmic agents.

of sudden cardiac death/syncope other than ventricular tachyarrhythmias. Informed patient consents were obtained, and study protocols of investigational devices were approved by the Institutional Research Board of either Wesley Medical Center or St. Francis Regional Hospital.

Procedure. Laboratory staff included a team of two electrophysiologists, two to three electrophysiology nurses or technicians and one device representative. One of the electrophysiologists performed the ICD implantation, while the other was responsible for intraoperative electrophysio-

logic testing of the device.

The implantation procedure has been described in detail previously.6 In brief, after an overnight fast, patients were brought to the electrophysiology laboratory and prepared, draped in strictly sterile fashion. Deep sedation was achieved with intravenous midazolam and fentanyl prior to defibrillation threshold testing. Blood pressure and O<sub>2</sub> saturation were monitored

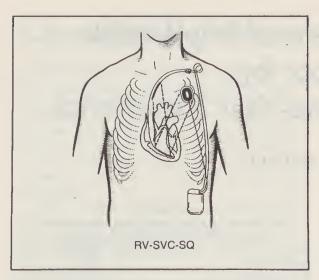


Figure 1. An ICD with three-lead system in which right ventricular (RV) lead is cathode, subcutaneous (SQ) patch and superior vena cava (SVC) lead are anodes. The dashed lines indicate current vectors. (From Medtronic Inc., Tachyarrhythmia Technical Concept Paper, vol. 1, no. 7, 1994. Reprinted with permission.)

closely. External defibrillation patches (R-2, Medical System, Niles, IL) were placed at the left scapular area and right anterior upper chest and connected to an external defibrillator (Zoll PD 120, Zoll Medical Corp., Burlington, MA), with a second backup defibrillator available during all implantations.

After local anesthesia with 1% lidocaine, a left subclavian percutaneous venous puncture or cephalic vein cut-down was made and a J-guide wire was advanced to the superior vena cava. Subsequently, an incision was made in the left infraclavicular region and a subcutaneous pocket was formed overlying the pectoralis fascia. A splitsheath introducer was placed over the J-guide wire. The dilator and I-guide wire were removed, and the ventricular defibrillation lead was inserted and advanced into the venous system. Subsequently, a J-guide wire was reintroduced and the sheath peeled away. Under fluoroscopy, the lead was positioned at the right ventricular apex. After appropriate sensing and pacing thresholds were obtained, the ventricular lead was secured to the pectoralis fascia using sutures and two lead-anchoring sleeves. With the Medtronic Transvene lead system, a second defibrillation lead was placed at the junction of the proximal superior vena cava and the left innominate vein, or a subcutaneous patch was placed in the prepectoral region.

After ventricular fibrillation was induced, defibrillation capability of the lead system was always first tested with the right ventricular lead as cathode at an energy level of 24 joules via an external cardioverter-defibrillator. If a 24-joule shock was successful in defibrillating the patient, another subsequent attempt of ≤ 24 joules was tested before proceeding with the final testing of an ICD. If the initial 24-joule shock was not successful, the system was retested with reversed lead polarity prior to placing a subcutaneous patch at either the left pectoral region or left mid-axillary region (figure 1). In many patients, to avoid a prolonged period of testing and shorten the duration of deep sedation, no attempt was made to find the lowest level of energy to defibrillate unless study protocol required such testing for investigational devices. In patients with clinical ventricular tachycardia, antitachycardiac pacing therapy by the device was also evaluated and programmed appropriately.

Subsequently, an abdominal pocket was formed in the upper left quadrant of the abdomen overlying the external oblique fascia, and leads were tunneled in the subcutaneous plane from the left intraclavicular incision to the abdominal pocket using a CPI tunneller. In five patients, Medtronic Jewel 7219D or 7219C devices (Medtronic Inc., Minneapolis) were implanted in the



Figure 2. Chest x-ray of a patient with a pectoral implanted Medtronic Jewel 7219C device and a Medtronic Transvene lead at right ventricular apex.

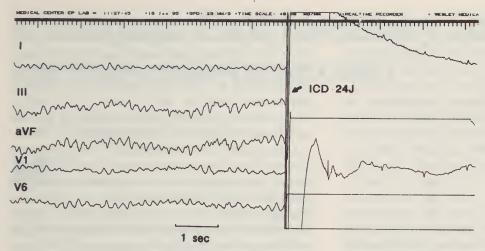


Figure 3. Electrocardiographic (ECG) recordings of induced ventricular fibrillation that was detected appropriately by an ICD and converted to sinus rhythm by a 24-joule shock (arrow). From top to bottom are ECG leads I, III, aVF, VI and V6.

pectoral region (figure 2). Subsequently, all leads were connected to the generator, and the device was required to recognize and terminate the induced ventricular fibrillation (figure 3). Deep tissues were closed with sutures in two layers and the skin was closed in a subcuticular fashion. Finally, appropriate detection and therapy for ventricular tachycardia/fibrillation were programmed, and the device was activated.

Sedation time was defined as the time from the first to the last dose of intravenous sedation. Implantation time was measured from the beginning of local anesthesia to the completion of skin closure.

Follow-up. All patients were followed up as outpatients at one week for suture removal and at four weeks, when patients were evaluated by ECG, chest x-ray and ICD check. Defibrillation testing of the device was performed two to four months after implantation.

#### Results

In the present study, transvenous ICD implantation was successful in all patients, and 33 of 34 patients were discharged alive from the hospital. One patient died due to worsening of refractory ventricular arrhythmia 15 days postoperatively while being loaded with amiodarone in the hospital. This patient, with a left ventricular ejection fraction of 20%, had successful ICD implantation with a defibrillation threshold  $\leq$  12 joules. She had no hemodynamic difficulties either intraoperatively or immediately following the procedure.

For those patients whose lowest defibrillation threshold was not determined, the defibrillation threshold was  $\leq 24$  joules in 13 patients, and  $\leq 25$  and 26 joules in one patient each. One patient had no inducible ventricular fibrillation despite

multiple attempts. The mean number of shocks during implantation was  $6.5 \pm 4.4$  (range: 3-21). Of the remaining 18 patients whose actual defibrillation threshold was tested, mean defibrillation threshold was  $13.8 \pm 5.2$  (range: 5-20) joules and mean number of shocks was  $5.2 \pm 2.5$  (range: 2-13).

Local anesthesia with 1% lidocaine and IV sedation were used during all implantations. Mean amounts of intravenous fentanyl and midazolam used were  $2.51 \pm 1.05$  (range: 1.02-5.06) and  $210 \pm 85$  (range: 110-469) mcg/kg, respectively. Mean sedation and implantation time were  $139 \pm 51$  (range: 57-262) and  $131 \pm 49$  (range: 50-220) min, respectively. All patients were returned to a monitored bed after the procedure.

Complications. No intraoperative complications or deaths occurred. One patient died postoperatively from refractory and incessant ventricular tachycardia/fibrillation. Minor complications occurred in two patients: one minor abdominal pocket hematoma, which resolved without any intervention; and one with incision-site cellulitis requiring intravenous antibiotic therapy. The mean time between implantation and hospital discharge was  $2.8 \pm 2.1$  (range: 1-8) days.

Follow-up. During follow-up, three patients died, one postoperatively. Two died two and 13 weeks after hospital discharge, respectively. One patient was lost to follow-up. Early and late follow-ups were obtained in all the remaining 30 patients, and no complications were observed. Patients were specifically asked about discomfort or pain during the procedure, and none recalled pain or shocks except one who recalled one of five shocks during implantation. The mean follow-up was 29.3 ± 14.3 (range: 11-61) weeks. All devices were functioning appropriately during fol-

low-up except in one patient, who required ICD system revision with the addition of a subcutaneous patch because of elevated defibrillation threshold during follow-up. Twelve patients (40%) received appropriate and successful ICD therapy for sustained ventricular arrhythmias as determined by detailed history data retrieved from the device telemetry and/or symptoms prior to the device therapy. Three patients (10%) received inappropriate device discharges for atrial arrhythmias.

### Discussion

This report describes the first-year experience of transvenous ICD implantation by a team of two electrophysiologists in an electrophysiology laboratory.

Smaller pectoral implanted ICDs (Medtronic Jewel 7219D/C) were still investigational in the United States during the period of present study. (The 7219D devices were approved by the FDA in April 1995.) These devices have been reported effective and simpler to implant than conventional ICDs.<sup>7,8</sup> Five out of 10 patients who received such ICDs had devices implanted in the left pectoral region. At the present time, the size of most ICDs still requires that they be implanted in an abdominal pocket. Therefore, the complexity of implantation is greater than that required for pacemaker implantation. Our experience indicates that sufficient experience in pacemaker implantation and familiarity with abdominal and chest wall anatomy are the prerequisites for successful transvenous ICD implantation by an electrophysiologist. Dedicated support staff including a second electrophysiologist, familiarity with the electrical equipment, and quality fluoroscopy in the electrophysiology laboratory are also essential. The mean time for ICD implantation was only  $131 \pm 49$  (range: 50-220) min in our experience, which compared favorably to previous reports.4,7,9

At most institutions, transvenous ICD implantations are performed under general anesthesia because of multiple incisions, lead tunneling and the perceived need for intubation during induction of ventricular fibrillation. Complications (4%) directly related to intubation and general anesthesia during ICD implantation have been reported. All ICD implantations in this study were performed using local anesthesia and IV sedation. The experience of ICD implantation without general anesthesia at our institutions was recently reported.

Most of our patients were discharged within one to two days after the procedure unless other medical problems required a longer hospital stay. Mean time between ICD implantation and discharge was  $2.8 \pm 2.1$  days, which was considerably shorter than the mean of  $3.8 \pm 0.8$  to  $5.4 \pm 2.2$  days reported by others utilizing general anesthesia during ICD implantation.<sup>4,9</sup>

One patient died postoperatively of refractory, sustained ventricular arrhythmias, which likely reflected her underlying heart disease or possible pro-arrhythmic effects of amiodarone, rather than directly relating to the procedure itself. Minor complications occurred in only two patients. The incidence of incision-site hematoma (1/34) and cellulitis (1/34) was similar to other large series. 4,5,10 No pulmonary or hemodynamic complications related to potential intubation and general anesthesia were observed in our patients. The overall complication rate of 8.8% (3/34) was considerably lower than that of 16-22% reported by others. 4,5,10 This lower complication rate was attributable at least in part to strict sterile technique, availability of quality radiographic equipment and experienced personnel in the electrophysiology laboratory.

The overall survival rate was 91% at a median follow-up of 30 weeks. One patient was lost during follow-up. Three others died, one postoperatively, one after unsuccessful resuscitation for a witnessed sudden collapse, and one of unknown causes. ICD system revision was performed in one patient because of elevated defibrillation threshold. Among 15 patients who received ICD therapy, three had inappropriate shocks for supraventricular arrhythmias.

Conclusions. The present study summarizes our first-year experience with transvenous ICD implantation and demonstrates that ICD could be successfully and safely performed by a team of two electrophysiologists in an electrophysiology laboratory without general anesthesia.

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(Continued on page 116.)

# Is Intensive Care Necessary Following Carotid Endarterectomy?

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any efforts have been made to curb escalating health care costs in the United States. A significant cost incurred by many surgical patients, including those undergoing carotid endarterectomy, is admission to the intensive care unit. Historically, all patients undergoing carotid endarterectomy were transferred postoperatively to the intensive care unit. Although favorable reports have been published regarding the safety of monitoring post-endarterectomy patients on a regular surgical ward, this practice remains somewhat controversial. Consequently, a study was undertaken to determine if this practice would be safe in our medical community.

### Methods

A prospective study was developed in which 151 consecutive patients undergoing 168 elective carotid endarterectomies, by a single vascular surgeon, were enrolled from October 1993 to October 1994. Seventeen of these patients underwent staged, bilateral operations. Ninety patients (59.6%) were male. The average patient age was 76.3 years, with a range of 42 to 91 years. Of the 168 carotid endarterectomies, 120 were performed for symptomatic lesions. These symptoms included typical carotid territory symptoms of contralateral hemiparesis, dysphasia, or ipsilateral amaurosis fugax. The remainder of the patients (n = 48) underwent surgery for asymptomatic lesions or for nonhemispheric symptoms. All but eight patients underwent intra-arterial digital subtraction arteriography. Of the patients who did not undergo arteriography, two duplex carotid scans, at two different vascular laboratories, were performed. All of these eight patients were symptomatic. Symptomatic patients with >50% diameter-reducing lesions received operative intervention. Also, symptomatic patients (n = 6)with 50% lesions underwent surgery when they

broke through anti-platelet therapy and demonstrated no significant cardiac reason for their symptoms, either by history, echocardiography, or 24-hour cardiac rhythm monitoring. All asymptomatic patients undergoing surgery were subjected to arteriography and demonstrated lesions that reduced the vessel diameter by ≥80%.

Patients were admitted on the day of operation, except for two who underwent coronary artery bypass. (Comments in this paragraph regarding perioperative care exclude the two patients who required coronary artery bypass and carotid endarterectomy, one concomitant and one staged.) Aspirin was begun preoperatively and was continued postoperatively. The operations were performed under general anesthesia using continuous arterial pressure monitoring. Blood pressure was kept near the physiologic range for each particular patient utilizing vasoactive medication as necessary. Central venous and pulmonary arterial catheters were not used in any patient. Systemic heparinization was instituted; shunts were placed for previous history of stroke, contralateral internal carotid occlusion, or inability to palpate a carotid back pulse.<sup>3</sup> Low-molecular-weight dextran infusion was initiated in the operating room and discontinued after 500 ml were infused at 25 to 50 ml per hour, depending on the age and weight of the patient. Protamine sulfate was given to reverse half the heparin previously adminis-

Patients were observed in the recovery room for 1½ to 2½ hours. The decision was then made to discharge the patient to a regular surgical floor or to the intensive care unit. This decision was based primarily on the stability of the patient's blood pressure. If blood pressure was stable for one hour without medications, patients were discharged to the regular surgical floor and placed on telemetry for 12 to 24 hours. If blood pressure was unstable, either excessively high or low, the patients were discharged to the intensive care unit.

Complications, including cardiac and neuro-

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logic, were monitored. Postoperative hospital stay was tabulated. All patients were followed on an outpatient basis during the first and fourth postoperative weeks.

### Results

Of the 168 endarterectomy patients, 137 were discharged to a regular surgical floor. Nineteen were discharged to the intensive care unit because of either hyper- or hypotension, which lasted for longer than the 2½ hours of observation in the recovery room. The remaining 12 endarterectomy patients were discharged to the intensive care unit for other reasons, including pharyngeal dysmotility, history of severe cardiac disease, or perioperative arrhythmias. No patients who were initially sent to the regular surgical floor required subsequent transfer to the intensive care unit.

None of the patients in this particular series suffered clinically suspected postoperative myocardial infarction. Other complications identified in these patients included four strokes, three of which were ischemic and one hemorrhagic. Two patients who suffered stroke, one ischemic and one hemorrhagic, died. One patient suffered a transient ischemic attack, was returned to surgery and was found to have platelet aggregation, which was removed. This patient subsequently did well and was discharged on the second postoperative day. One patient developed pulmonary edema, due to excessive intravenous fluid administration intraoperatively, which responded rapidly to diuresis. Cardiac enzymes and ECG on the first and second postoperative days did not demonstrate myocardial infarction and this patient was dismissed on the second postoperative day.

One patient who developed a cervical hematoma requiring reoperation was dismissed on the second postoperative day. Two patients developed pharyngeal dysmotility due to high carotid dissections that were necessary to fully remove the plaque. These patients required hospitalization for four days and six days, respectively. One of these patients needed outpatient tube feedings and spontaneously resolved within eight weeks.

The average postoperative hospital stay in the

uncomplicated cases was 1.4 days, 93 patients being dismissed on the first postoperative day. When all cases were tabulated, including the two patients who underwent coronary artery bypass grafts, the hospital stay averaged 1.6 days. During follow-up no patient complained of new angina or shortness of breath, and no new carotid territory symptoms were identified.

### Discussion

Previously, all patients undergoing carotid endarterectomy were discharged to the intensive care unit postoperatively. With increasing emphasis on cost containment, all aspects of patient care and expenditure are being evaluated more critically. Certainly, one significant expense incurred during hospitalization is intensive care monitoring, which at our institution is approximately \$1395 per day (base rate), compared to a regular room rate of \$505 per day. Results of this study demonstrated that 82% of our patients were able to forego the expense of intensive care monitoring. This was possible without any deleterious effects and, in fact, no patients in this series suffered a clinically apparent myocardial infarction within 30 days of the operation. Furthermore, the 2.4% occurrence rate of stroke in this series is consistent with the current vascular surgical literature.<sup>4</sup> It is, therefore, clear that the lack of intensive care monitoring in the majority of these patients did not adversely affect their outcome.

The results of this series indicate that selective management permits the majority of patients to be safely cared for without the need for intensive care monitoring.

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### Reading Grade Levels and Health Behaviors of Parents at Child Clinics

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### Abstract

Objectives. Recent reports suggest alarmingly low levels of literacy among adults in the U.S., but these are not expressed in grade levels. Assessment of the epidemiology of reading grade levels is necessary for development of patient education materials written at appropriate levels.

Methods. We measured demographics, reading ability and self-described health behaviors of 646 parents at two private, two university, two indigent and six public child-related clinics in a midwestern city using a bilingual oral interview and

the Wide Range Achievement Test.

Results. Parents were 59% white, 92% female, with mean age 28 years, mean years of school 12.1 and mean reading grade 8.7. Parents tended to read four to five grades below their highest completed school grade. Analysis of self-reported health behaviors showed that 69% had no private insurance, 31% smoked cigarettes, 35% had body mass index greater than 27, and 46% of parous mothers had never breast-fed. Prevalence odds ratios showed that all adverse health risks except obesity were associated with low reading ability.

Conclusions. These findings have important implications for public health professionals working in clinical care, health education and agency policy. Persons with low literacy levels appear to be at particularly high risk for adverse health behaviors. Education materials and teaching vocabulary should be appropriate for client reading grade levels.

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### Introduction

Poor reading ability may adversely affect health in several ways. Inadequate reading competence impedes access to accurate health information crucial for self-help health promotion and disease prevention, access to the disease care system and access to many jobs with employer-sponsored health insurance. A recent cross-sectional study of adults attending reading-assistance programs in Arizona reported a strong association between poor reading ability and poor health status.<sup>2</sup> However, no population-based data about reading abilities are available for Kansas, and little research regarding reading ability and health behavior has been reported. Therefore, we conducted a study to describe the epidemiology of parent reading abilities at 12 representative midwestern clinics, and to determine whether low literacy was associated with adverse health behaviors.

### Methods

Subjects and setting. A convenience sample of 646 parents or caretakers obtaining child-related services was studied during June and July 1994. The study sites were two private pediatric clinics, two university clinics, two indigent clinics, and six Wichita-Sedgwick County Department of Community Health clinics. Sedgwick County has the highest population (403,662) of Kansas counties and is typical of many midwestern urban areas. Participation was offered to any parent or adult caretaker waiting for child-related services at pediatric, prenatal or immunization clinics. We will refer to all adult participants as parents, although a small number were another type of adult caretaker. Parent sampling was consecutive except at times of highest patient volume, when sampling was by convenience. Less than 4% of eligible parents declined to participate.

Parents who consented were given a three-minute reading test.<sup>3</sup> Next, each parent was orally interviewed using a 36-item demographic survey, either in English or Spanish according to parent preference. Parent privacy was maintained by conducting interviews in private rooms. When interviewing occurred in waiting rooms, parents were offered the option of going behind partitions for privacy.

### Instruments

Parent reading ability was measured using the Wide Range Achievement Test (WRAT),<sup>3</sup> a highly accepted three-minute reading test that assesses ability to read and pronounce increasingly difficult words. It measures reading recognition rather than comprehension. Raw WRAT scores are converted to grade equivalents.

Demographic characteristics of subjects were measured using a 36-item written survey, in English and Spanish, that was developed and iteratively pretested from January through June 1994. To eliminate any difficulties in subject comprehension, the survey was administered verbally. Interviewers were five second-year medical students and three other graduate students. Three interviewers spoke Spanish, six were women and two were non-white.

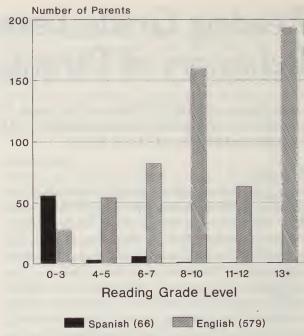
Data entry was performed using CDC EpiInfo 5.01b.<sup>4</sup> Descriptive statistics, odds ratios and chisquare were calculated using SAS 6.04.<sup>5</sup> The study and instruments were approved by the University of Kansas School of Medicine Committee on the Rights of Human Subjects.

#### Results

The 644 parents ranged in age from 13 to 63, with a mean age of 27.8 years. The median and

DEMOGRAPHICS OF STUDY POPULATION

(n = 646)					
	Mean	(sd)	Median	Range	
Age	27.8	(7.9)	27	13-63	
Years of School	12.1	(2.6)	12	2-20	
Reading Grade Ability	8.7	(4.0)	9	0-13+	
			Preva	lence (%)	
Health Insurance				76%	
Indigent Clinic Site				4%	
Learning Disability				7%	
Female				92%	
White Race				59%	
Spanish-Speaking				10%	
Smoke Cigarettes				31%	
Obese				35%	
Unmarried				44%	
Parous Mothers (n = 58	35) Neve	er Breas	tfed	46%	



Distribution of English reading levels among parents by language spoken: 12 child-related clinics in Wichita, June-July 1994.

mean self-reported last grades of school completed were 12 and 12.1 grades, respectively. Population demographics are displayed in the table. Almost half of the parents (45%) had a reading ability less than ninth-grade level, 22% had less than a sixth-grade level, and 13% had less than a fourth-grade level. Parents tended to read four to five grades below their highest school grade completed.

The sample population included a small percentage of Spanish-speaking parents (10%). The distribution of reading grade levels among parents by language spoken is displayed in the figure. Spanish-speaking parents comprised the majority of parents with zero-through fourth-grade reading levels. However, there was a remarkable percentage of English-speaking parents who also read at low levels. Forty-one percent of English-speaking parents read in the zero- to eighth-grade range.

Bivariate comparison showed significant associations between low reading ability and smoking, never breastfeeding, and lack of private health insurance, each significant at the p < 0.05 level. No association with obesity was found.

### Discussion

These findings indicate that a surprisingly large proportion of parents have low reading ability

and may not be able to read health education materials. These parents are also most likely to need health education because of adverse health behaviors such as smoking and bottle-feeding. Persons working in public health programs should consider reading level when communicating with patients and families, and choosing and preparing written patient materials. This study confirms others<sup>6-7</sup> that found functional reading level to be several grades below highest grade completed.

Comparison with DOE Data

In 1993 the United States Department of Education (DOE) Adult Literacy Study reported that 46 to 51% of American adults have low levels of literacy, defined as the two lowest levels on a fivelevel scale. The DOE study was not conducted in Kansas and did not measure reading grade abilities. Without knowing the epidemiology of adult reading grade ability, health educators cannot develop appropriate written materials. The DOE and these data suggest that literacy is present in a graded continuum within the entire population. §

Generalizability

Only English language reading ability was tested in this study. Like many states, Kansas has numerous Asian, Mexican and Central American immigrants who have moved here during the last 20 years and are now in various stages of English language assimilation.

Census data indicate that Kansas lies in the 66th percentile for prevalence of high school completion (82.2%) and 58th percentile for prevalence of college graduation among adults (22.3%). Kansas Board of Education records show that 77% of Sedgwick County ninth graders complete high school within four years. 10

Because DOE data do not indicate reading grade levels, statewide literacy surveillance will be required in this and other states to better determine the epidemiology of adult reading ability. Establishment of literacy screening, referral and education services might be a powerful method of improving reading levels of young working parents, besides determining the epidemiology of reading levels among local populations served.

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### **ROLE OF IMAGING IN DIAGNOSIS**

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## The Role of Imaging in Diagnosis of Acute Appendicitis

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The diagnosis of acute appendicitis is generally based on current symptoms, physical examination and data from laboratory tests. Even with this information, diagnosis may be difficult. Data presented by Biersack (1993) clearly show wide variability in the clinical presentation of patients with a final diagnosis of acute appendicitis. One third of patients with appendicitis present with pain outside the right, lower quadrant. The lack of constancy of anatomy of the appendix is a major contributor to the atypical clinical features of appendicitis. In these patients, the use of imaging modalities is appropriate.

### **Anatomical Review**

The base of the appendix maintains a constant relationship to the cecum; however, the cecum can vary considerably in position, and the free end of the appendix can occupy a variety of positions. The cecum can be located in the right side of the pelvis, more frequently in women; it can be located in the subhepatic space; or it can extend in a transverse fashion to the mid-abdomen. Therefore, the tip of an appendix, which can be up to 10 to 12 cm in length, can range in location throughout the right side of the abdomen, and occasionally extend to the left of midline. It can be close to the anterior peritoneal membrane, or be in a retrocecal location posteriorly in the peritoneal cavity.

The resultant diagnostic difficulty partially explains why 10% of men and up to 35% of women undergoing appendectomy are found to have normal appendices.<sup>3</sup> Biersack (1993) reports that women between 21 and 40 suspected of acute appendicitis have a negative laparotomy rate of 45%.<sup>1</sup> The diagnosis of appendicitis can be particularly difficult in children, where previously undiagnosed congenital disease must be considered, as well as gastrointestinal disorders.<sup>4</sup>

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To help resolve some of the problems in diagnosis of acute appendicitis, diagnostic imaging techniques have been used. The most basic examination is the abdominal film. Supine and upright abdominal films can be helpful in evaluating a patient for the presence of an appendicolith (Figure 1), for the presence of generalized ileus, and to evaluate for complications such as possible bowel obstruction or bowel perforation. However, an appendicolith is identified in less than 10% of cases of acute appendicitis. The most common finding in radiographs of the abdomen with appendicitis is the presence of localized ileus. On simple radiographs, calcification in the right lower quadrant is nonspecific and could represent a calcified lymph node or radio-opaque material in the bowel, making plain films of limited value in diagnosing acute appendicitis.

Barium enema examinations have been used to evaluate a patient suspected of having acute appendicitis. A barium enema is superior to abdominal films in that the location of the cecum can be determined, and an attempt can be made to identify the appendix. If the appendix fills with barium, appendicitis is extremely unlikely. A barium enema is also helpful in evaluating the terminal ileum, which in many cases can be visualized. Important conditions in the differential diagnosis of acute appendicitis can be identified, especially inflammatory changes in the cecum and extrinsic compression of the cecum. If the terminal ileum is visualized, then important information can be obtained regarding the possibility of inflammatory bowel disease, such as Crohn's disease. However, the appendix is seen in fewer than onefourth the normal population; a negative barium examination which fails to visualize the appendix is nondiagnostic in a patient with suspected acute appendicitis.

Improvements in sonographic imaging in recent years make sonography an important imaging tool in the evaluation of acute appendicitis. The ultrasound diagnosis of acute appendicitis is



Figure 1: Abdomen film visualizing appendicolith (arrow).

based on identification of a fluid-filled, dilated appendix having a diameter of greater than 6 mm located anterior to the psoas muscle (figures 2 and 3). It is differentiated from a loop of small bowel by the absence of peristaltic activity, constant shape and lack of compressibility. The identification of peri-colic inflammation or abscess formation without the identification of an abnormal appendix is considered suggestive, but not specific, for appendicitis. The increased utility of sonography is due to marked improvement in equipment, operator skills and interpretive skills. Balthazar (1994) indicates that ultrasound is superior to radiography and barium enema studies for evaluating the appendix.6 In this study of 100 patients suspected of having acute appendicitis, 54 patients did, in fact, have acute appendicitis. Of these, ultrasound images revealed appendicoliths in 17%, phlegmon and/or abscess in 17%, and an abnormal appendix in 70%. Balthazar's analysis of ultrasound data revealed a sensitivity for appendicitis of 76%, specificity of 91%, and an accuracy of 84%, with a positive predictive value of 95% and a negative predictive value of 76% in cases where the appendix is visualized. However, in patients who did not have acute appendicitis,



Figure 2: Transverse image of a fluid-filled appendix (arrows).



Figure 3: Long axis image of a fluid-filled appendix (arrows).

sonography showed a normal appendix in only 4% and did not visualize appendices in 10% of the cases, indicating the difficulty of identifying the normal appendix by sonography. As with the barium enema, a sonographic exam which fails to visualize the appendix is nondiagnostic in a patient with suspected acute appendicitis.

CT scanning is now a significant contributor to the imaging of patients with suspected acute appendicitis with atypical presentation. CT diagnosis of appendicitis is based on identification of an abnormal appendix. Identification of peri-colon inflammation, phlegmon and/or abscess without visualization of an abnormal appendix is considered suggestive, but not specific, for acute appendicitis. The abnormal appendix on CT is identified as a small, tubular structure with a thick wall, fluid-filled content and contrast enhancement of the wall of the appendix (figure 4). CT is the most sensitive modality for identifying appendicolith formation (figure 5). In Balthazar's study of 100 patients suspected of having acute appendicitis, a confirmed, alternative diagnosis was made by CT in 22 of the 46 patients without appendicitis. There were two false negative CTs in which the appendices were visualized, but had



Figure 4: Thickened appendix with surrounding phlegmon (arrow).

collapsed, and did not show wall thickening or periappendicele inflammation. Surgery revealed mild appendicitis in one and slight inflammation with micro perforation in the other. CT yielded 2 false positives, in which the appendix was considered slightly thickened, but showed no histopathologic findings of acute appendicitis. A study by Malone (1993)<sup>7</sup> using CT scanning without oral barium and without the benefit of intravenous contrast showed an accuracy for CT of 93%, sensitivity of 87%, and specificity of 97%. Positive predictive value was 94%, and negative predictive value was 93%. Balthazar's comparison of ultrasound and CT yielded comparable figures, as seen in the table.

Another important consideration in the use of any imaging modality is cost. While the actual price of each varies from provider to provider, comparative estimates can be made. Abdominal plain films are routinely less costly than the other options, followed closely by the barium enema.

TABLE 1. ACUTE APPENDICITIS: CT AND ULTRASOUND CORRELATION IN 100 PATIENTS

	CT	US
Sensitivity (%)	96	76
Specificity (%)	89	91
Accuracy (%)	94	83
Positive predictive	04	0.5
value (%)	96	95
Negative predictive		
value (%)	95	76

Note: Data are included for patients with nonspecific pericecal inflammation. (From Balthazar, et al., page 35)



Figure 5: Dilated appendix containing fluid and two small appendicoliths (1). Also present is mild edema of the mesenteric fat, posterior and medial to the appendix (2).

Sonography is approximately twice the charge of a barium enema. CT examination is between two and three times the cost of a sonographic evaluation. Therefore, it is imperative that the clinician take into consideration in each case both the clinical need for increasingly sensitive imaging and the resources of the particular patient, as well as the potential additional cost of either a laparoscopic or abdominal appendectomy.

### Conclusion

Several imaging modalities are now available for evaluation of patients with atypical presentation of acute appendicitis. Radiographs consisting of supine and upright abdomen are a reasonable first choice, primarily to exclude bowel perforation. The next imaging procedure of choice is sonography, especially in children and young women. If an abnormal appendix is identified by sonography, then no further imaging is required. An alternative approach is to proceed from abdominal radiographs to CT scanning, in that CT is the most informative examination, with the highest sensitivity and greatest positive, as well as negative, predictive value. CT also permits the evaluation of the entire mesentery and abdominal contents for evaluation of possible complications secondary to acute appendicitis or identification of important alternate diagnoses.

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# Atypical Squamous Cells of Undetermined Significance: Community Incidence and Management Review

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The Bethesda System for reporting cervical cytology was originally developed in 1988 and revised in 1991. The intent was to provide a uniform format for cytopathology reporting which would allow communication of clinically relevant information. The term atypical squamous cells of undetermined significance (ASCUS) was proposed to describe those cytologic specimens which showed cellular changes more marked than can be attributed to a reactive process but fall short of being diagnostic of dysplasia.

Neither the optimal rate nor the appropriate management of ASCUS is well established. The frequency of ASCUS reports varies widely from laboratory to laboratory, and there are numerous differing management approaches.<sup>3</sup> The intent of this study is to determine the incidence of ASCUS Pap tests in two busy gynecology practices with reports provided by two different cytopathology laboratories. In addition, we hoped to determine if a dominant management scheme could be identified.

### Materials and Methods

A retrospective review of the charts of all women found to have ASCUS on Pap tests from January 1, 1992 through December 31, 1992 was performed. All patients were seen by a gynecologist in one of two private practices. Each group of physicians utilized a different cytopathology laboratory. Both laboratories were accredited by the College of American Pathologists. Charts were reviewed in a systematic manner to obtain data

on each patient including age, gravidity, previous abnormal Pap tests and previous therapy for abnormal Pap tests. Management of the ASCUS Pap test was also recorded. Data was entered into a relational database and analyzed with the use of a T-test, Chi-square test and Fisher's exact test.

### Results

During the 1992 study period, 7,659 Pap tests were performed by Group A and read by Laboratory A, with 7,639 Pap tests performed by Group B and read by Laboratory B. Of 7,659 Pap tests read by Laboratory A, 382 (5%) were reported as ASCUS. Of 7,639 Pap tests read by Laboratory B, 144 (2%) were reported as ASCUS. Of the 382 patients with ASCUS in Group A, 120 (30%) underwent colposcopy, compared with 65 (45%) of the 144 patients with ASCUS in Group B (Chisquare test, P = 0.01). (See table 1.)

Table 2 illustrates an average age, average gravidity, history of previous abnormal Pap smears and previous therapy, categorized by group of practice and whether or not colposcopy was performed. There is no statistical difference in age, gravidity or history of abnormal Pap test when patients in Group A are compared to patients in Group B. When previous therapy for abnormal Pap smear was compared, 88 (23%) of 382 patients in Group A had previously received therapy and 49 (34%) of 144 patients in Group B (Chisquare test, P = 0.01) had previously been treated for abnormal Pap tests.

The biopsy results of those patients undergoing colposcopy are presented in Table 3. Detection of high-grade lesions as defined by positive endocervical curettage, CIN II, CIN III, or carcinoma was compared between groups. Six (5%) of 120 patients were found to have high-grade lesions in Group A, and 15 (23%) of 65 patients in Group B (Fisher's exact test, P = 0.04).

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TABLE 1.
GROUP/LABORATORY COMPARISON

	Group A	Group B	
Total Paps	7659	7639	
Total ASCUS (%)	382 (5%)	144 (2%)	
Therapy			
Observation	262 (69%)	79 (55%)	
Colposcopy	120 (31%)	65 (45%)	

ASCUS = Atypical squamous cells of undetermined significance.

### Discussion

The current review has answered some, but not all, of our initial questions. The frequency of ASCUS Pap results in two private gynecology practices ranges from 2% to 5%. The incidence of high-grade cervical lesions ranged from 5% to 23% in those patients evaluated by colposcopy. Observation or repeat Pap test was the most common management option chosen by this group of gynecologists, 69% and 55% for Group A and B respectively. Care must be taken to avoid overinterpretation of the data. The retrospective nature of the study, the difference in incidence of previous abnormal Pap test therapy and incidence of colposcopy between the two groups makes generalizations hazardous. Since this review study, a report from a National Cancer Institutesponsored workshop was published, stating that in most populations, the rate of ASCUS should be no more than 5%; alternatively, the ASCUS rate may be two to three times the laboratory's squamous intraepithelial lesion (SIL) rate.4 Several management protocols were offered for ASCUS, including the option of repeat smears every four to six months, followed by colposcopy if the patient has a second ASCUS report within two years. These guidelines were termed interim, being based on empiric data and not on published results of controlled prospective studies. A survey of cytopathology laboratories in the College of

TABLE 3. COLPOSCOPY RESULTS

Biopsy Results	Group A (120)	Group B (65)
ECC (+), Cx Bx (-)	1	4
ECC (-), No Cx Bx	9	1
ECC (+), No Cx Bx	0	2
ECC Insuff., No Cx Bx	0	1
Neg. Biopsies	8	9
Repair	5	0
Sq. Metaplasia	43	4
Inflammation	31	1
Cervicitis	1	0
HPV/Condyloma	0	1
CIN I / HPV	17	31
CIN II / HPV	2	6
CIN III / HPV	2	3
Carcinoma	1	0

American Pathologists Interlaboratory PAP Program found a median ASCUS rate of 2.9%, with 10% of laboratories reporting rates of 9.0% or more; the corresponding median SIL rate was 2.0%, with a median ASCUS:SIL ratio of 1.3.3

As a result of our initial review and the lack of prospective data on ASCUS evaluation, we have developed a prospective study utilizing the same two groups to perform colposcopy on all women with ASCUS Pap results who have not had an abnormal Pap test in two years.

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TABLE 2. COMPARISON OF COLPOSCOPY VS. OBSERVATION

	Group A		Group B	
	Colposcopy (120)	Observe (262)	Colposcopy (65)	Observe (79)
Avg. Age	36	35	35	34
(Range)	(16-63)	(17-77)	(17-69)	(17-76)
Avg. Gravidity	2	2	2	2
(Range)	(0-8)	(0-10)	(0-10)	(0-8)
Previous Therapy	22	66	21	28
No Prev. Therapy	98	196	44	51
Previous Abn. Pap	108	103	30	39
No Prev. Abn. Pap	12	159	35	40

# Ornithine Transcarbamylase Deficiency: Case Report and Review

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ive well documented diseases, each with considerable genetic and phenotypic variability, relate to defects in the biosynthesis of the urea cycle enzymes. Four of these five diseases, deficiencies of carbamyl phosphate synthetase (CPSD), ornithine transcarbamylase (OTCD), argininosuccinate acid synthetase (ASD) and argininosuccinate lyase deficiency (ALD), are characterized by signs and symptoms induced by accumulation of precursors of urea, principally ammonia and glutamine. The most dramatic clinical presentations of these four diseases occur in full-term infants with no obstetric risk factors who appear normal for 24 to 48 hours and then develop progressive lethargy, respiratory problems and neurologic dysfunction related to high plasma ammonia levels. An encephalopathy that is characterized by brain edema and swollen astrocytes ensues. Although the cause of cell swelling is unclear, it has been attributed to intraglial accumulation of glutamine resulting in osmotic shifts of water into the cell. These four diseases also may present later in infancy, childhood and adulthood as episodic mental status changes (lethargy, behavioral abnormalities).

Case Report

A full-term white male was born to a 23-year-old primigravida by normal labor and spontaneous vaginal delivery. The infant had Apgar scores of 8 at one minute and 9 at 5 minutes. Initially his progress was unremarkable, and he nursed very well. At 24 hours of age, he showed transient temperature instability but no other signs or symptoms.

On the day of dismissal from the hospital, the infant was noted to be lethargic and no longer nursing well. Lethargy progressed, and the patient developed tachypnea. The patient was hospitalized, and a septic work-up was initiated with antibiotic therapy after the collection of speci-

mens for complete blood count, blood cultures, urine culture and cerebrospinal fluid culture.

The complete blood count, serum electrolytes and preliminary cerebrospinal fluid studies were unremarkable. Because of the history of progressive lethargy without evidence of sepsis, metabolic encephalopathy secondary to inborn error of metabolism was considered. Inborn metabolic disease work-up, including plasma amino acid, ammonia (NH3), urine for orotic acid and urine organic and amino acid screens were done and genetic consultation was obtained. CT scan of the head was normal.

Initial serum ammonia was elevated at 740;  $\mu$ mol/L (normal range 9-33) arterial sampling revealed pH = 7.47; pCO2 = 31; HCO3 = 22.6; BE = 0.6; BUN = 2; creatinine = 1.1 and normal serum glucose. With these findings (elevated ammonia, alkalosis, normal serum glucose), urea cycle enzyme deficiency was suspected.

Mechanical ventilation was initiated, and to initiate peritoneal dialysis a peritoneal catheter was placed. A central line was also placed to infuse glucose solution in order to minimize catabolism. Despite initiation of peritoneal dialysis, NH3 levels continued to rise. He developed metabolic acidosis and poor tissue perfusion. All available therapeutic maneuvers failed, and the NH3 increased to a level of 1461 µmol/L. His clinical condition continued to deteriorate. Because of poor response to the interventions, he was transferred to another facility for hemodialysis. He died a short time after arrival.

Because of the rapid and overwhelming nature of the disease process, ornithine transcarbamylase (OTC) deficiency was suspected. Plasma amino acid levels prior to the patient's death and postmortem liver biopsy for enzyme assay were obtained. Both studies confirmed OTC activity in liver tissue specimens was absent and DNA analysis revealed a deletion in exon 6 at codon 199 of the OTC gene.

### Discussion

Clinical Aspects. Ammonia is highly toxic to the brain, where it may interfere with energy pro-

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duction and the normal metabolism of neurotransmitters. Plasma levels as low as 100-200 µmol/L are usually associated with symptoms of lethargy and vomiting, whereas higher levels can result in diffuse brain edema, coma and death. Ammonia is dissolved in body fluids in two forms, ionized (NH4) and nonionized (NH3). The nonionized form is more diffusible and is, therefore, more toxic.

Newborns with acute neonatal hyperammonemia caused by OTC deficiency are typically males. Rarely, a heterozygous female may have an acute neonatal presentation. These babies appear normal at birth. Subsequently early symptoms occur, including irritability, poor feeding, vomiting, lethargy, hypotonia, respiratory distress, seizures and coma. Death will invariably occur unless hyperammonemia is diagnosed and immediate intervention to decrease ammonia is undertaken. Plasma ammonia levels are usually extremely high and may approach 2,000 µmol/L. The blood urea nitrogen level is usually low, and unless hypoperfusion or shock occurs, the patient's blood gas analysis shows a respiratory alkalosis caused by hyperventilation stimulated by ammonia's effects on the brain.

A substantial number of patients with OTC deficiency present later in life, even in adulthood, with a clinical picture resembling Reye's syndrome, behavioral changes or seizures associated with hyperammonemia. These patients are males with relatively "mild" mutations or heterozygous females whose X chromosome inactivation occurred in an unfavorable manner.

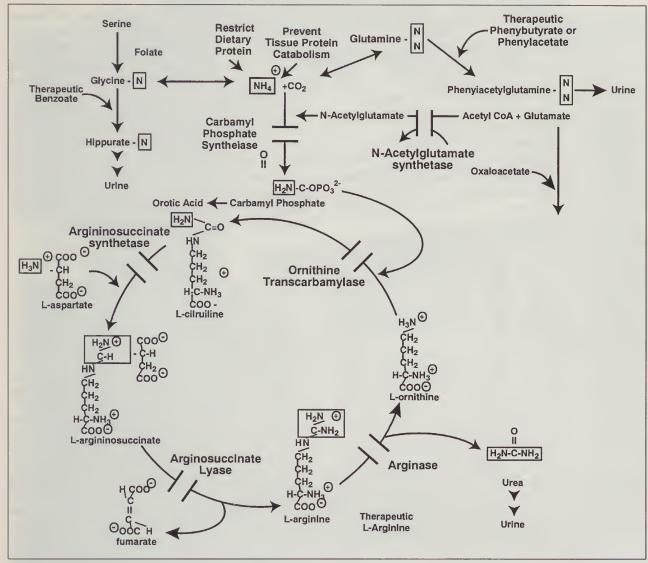
The variable clinical picture (from normal to severely affected) in females heterozygous for OTC deficiency is explained by random inactivation of one of the OTC genes. Females who are heterozygous for OTC deficiency show a mosaic pattern in the liver consisting of cells with normal OTC and cells with deficient OTC function. Only about 15% to 20% of females with OTC deficiency show clinical symptoms, suggesting that most of them have sufficient residual OTC activity to prevent hyperammonemia. All late-onset patients have partial enzyme deficiencies. The past medical history of these patients usually reveals protein intolerance, self-restriction of protein intake, severe vomiting, lethargy during intercurrent viral illnesses, Reye's syndrome-like episodes, developmental delay, and seizures. Clinical symptoms could be precipitated by catabolic stress, infections, high protein intake and possibly dehydration. Treatment with valproic acid for a seizure

disorder may unveil a previously undiagnosed urea cycle defect by precipitating an attack of hyperammonemia in a patient caused by the toxicity of this drug to the mitochondria. Similarly, exposure to insect repellent was reported to precipitate an attack in a female heterozygous for OTC deficiency.

Biochemical Aspects. A tentative diagnosis of OTC can frequently be established even before results of enzyme analysis are available. Quantitative plasma amino acid determination shows high glutamine and alanine levels, reflecting hyperammonemia and associated absent or very low level of citrulline. Orotic acid and other pyrimidines such as orotidine, uridine and uracil are elevated in the urine. The mechanism for orotic aciduria and pyrimidinuria in this disorder is probably the shunting of unmetabolized mitochondrial carbamyl phosphate into the pyrimidine synthesis pathway, augmented by excess aspartate required for de novo synthesis of pyrimidines (figure 1). The excretion of orotic acid and its derivatives by OTC-deficient patients can be exploited for diagnostic purposes in males and females and for determination of OTC carrier status in females.

The diagnosis of OTC deficiency can be established by enzyme analysis of liver or intestinal tissue. All patients with acute neonatal hyperammonemia have no detectable OTC activity in their liver, whereas patients with onset of clinical symptoms after one month of age have activity in the range of 0% to 30% of normal. Males with partial OTC deficiency have reduced or undetectable OTC protein in their liver, as shown by western blot analysis. This finding can be explained either by the presence of deletions or mutations, which cause aberrant mRNA transcription and faulty protein synthesis, or by point mutations resulting in amino acid substitutions affecting the stability of the OTC protein or premature termination of OTC translation.

Therapy. Acute hyperammonemia is a medical emergency for which immediate measures should be taken to reduce ammonia levels rapidly in order to minimize permanent brain damage. Figure 1 shows strategies for treatment of newborns with acute hyperammonemia. Current therapy consists of dietary and pharmacologic manipulation. The patient's protein intake is severely restricted and citrulline is supplemented in order to avoid arginine depletion. In addition, sodium benzoate and sodium phenylacetate or sodium phenylbutyrate are used. These drugs eliminate ammonia by alternative liver enzyme pathways: benzoate is con-



Urea cycle disorders and therapeutic interventions.

jugated to glycine to form hippuric acid, and phenylacetate is conjugated to glutamine as phenylacetylglutamate.

Hemodialysis is the most effective measure for rapid elimination of ammonia. Exchange transfusions are not efficient in reducing ammonia levels. Dialysis should be instituted if brain edema or severe central nervous system dysfunction is present. Markedly elevated blood ammonia level (>  $300 \mu mol/L$ ) is also an indication for dialysis.

Long-term management of these patients is based on total protein intake restriction, supplementation of essential amino acids as part of the protein intake, and alternative ammonia elimination pathway therapy with sodium benzoate and sodium phenylacetate or with sodium phenylbutyrate alone. Recurrent episodes of hyperammo-

nemia are very common among males and severely affected females.

The outcome of patients with OTC deficiency depends on the severity of the enzyme deficiency and on the degree and number of hyperammonemic attacks. Mental retardation of variable degrees is the rule in males with complete deficiency of OTC. Prospectively treated babies (siblings of affected children) do better than those treated after onset of symptoms, but their outcome is guarded. Currently, prospective therapy in the newborn period followed by early liver transplantation offers the best chance of favorable outcome.

Future prospects for therapy of OTC deficiency involve gene transfer to the deficient liver, mediated by viral vectors. A few animal studies have been published where liver cells were transduced with normal genes.

Another suggested approach to gene therapy, for acute management, is to use an OTC-containing plasmid coated by a specific protein recognized and incorporated into liver cells. Expression of the incorporated gene occurs within a few hours but is of short duration.

OTC Gene Structure. The structural gene encoding for OTC has been mapped to the short arm of the X chromosome on band Xp21.1, proximal to the Duchenne-Becker muscular gene.<sup>2</sup> Other genes in proximity are those for retinitis pigmentosa, glycerol kinase and Norrie disease. Large deletions in this area of the X chromosome could result in contiguous gene syndromes with clinical presentations of the diseases associated with the deleted genes.

The OTC gene has been cloned and sequenced. It spans 85 kb and contains 10 exons and 9 introns.<sup>3</sup>

The messenger RNA transcribed from the OTC gene contains 1062 translatable bases, encoding the synthesis of a precursor OTC protein with 354 amino acids and a molecular weight of 40,000 daltons. The functional enzyme is a homotrimer located in the mitochondrial matrix attached to the inner mitochondrial membrane. The OTC gene is expressed mainly in the liver and intestinal mucosa.

Carrier Testing and Prenatal Diagnosis. Four

different restriction fragment length polymorphisms (RFLPs) have been identified at the human OTC locus by using various restriction enzymes. This finding makes prenatal diagnosis possible for known carriers who have an affected child from whom DNA is available. However, about one third of male patients with OTC deficiency result from new mutations with no positive family history. Here, unless their mother's carrier status is established via the allopurinol test, indepth pedigree analysis, or DNA studies, RFLP linkage is not possible. When maternal carrier status can be conclusively assigned, DNA-based antenatal testing is almost 100% accurate.

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### Farewell and Thank You, KMS

### Dear Readers:

With this issue, I conclude eight-plus years of fulltime work for KANSAS MEDICINE. For a while, at least, I will continue to edit the journal as a freelancer. The reason for the change is that I have joined my husband in a new business.

When I began working as a part-time proof-reader in high school, metal headline type was still being set by hand, letter by letter. By the '70s, computer systems produced type photographically, but editors still had to send manuscripts out for typesetting. Then came a series of technological advancements in the '80s that led to the present generation of desktop publishing, the means by which we all become typesetters merely by sitting down at our personal computers.

From this dizzying sphere of advancing technology, I now step back in time as my husband

and I open a Native American arts and crafts gallery. The wares in our shop are made by artisans whose techniques in some cases predate even the potter's wheel. The patterns may become more sophisticated, but — so far — the techniques remain decidedly low-tech. Perhaps their simplicity is part of the reason why these crafts appeal so strongly to us today.

But we are not completely retreating into the past. To acquire handcrafts for our gallery, Jim and I travel the byways of the southwest in our air-conditioned car, with our cellular phone. We advertise the store on cable television, and an electronic alarm system guards the wares in our shop. In our new life, the genius of Native American tradition meets the wizardry of Anglo hightech inventiveness — strange, but compatible, bedfellows.

I appreciate the experience of working with you at KMS, and I hope to see you again from time to time. Until then, good-bye.

Susan Ward, Managing Editor



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# Would I Rather Be Doing Anything Else?: Kansas Women in Medicine

SUSAN WARD\*

t is with great pride that I see a special feature in KANSAS MEDICINE dedicated to female physicians. Kansas' women physicians have a long history of contributions and involvement with Kansas medicine. They have held positions of great respect throughout the years. There have been some obstacles to overcome, but I feel that some of the barriers in Kansas have been less than in other parts of the country. Part of this, I feel, is due to the attitudes of Kansas' male physicians who, for the most part, have welcomed all professionals, regardless of personal characteristics such as gender and race, as equal contributors on the medical team.

If there is any barrier to women physicians now, it seems to be convincing bright young women that they can have a future in the medical world and enjoy the rewards and personal satisfaction of productive medical careers the same as their male peers. Women do have a different perspective, and we need their contributions to provide

even greater depth and variety to the profile of medicine in Kansas.

Linda D. Warren, M.D.

"Everyone knows" female physicians have a tougher time than their male counterparts. Discouraged from attending medical school by paternalistic admissions officers, ridiculed and harassed by their male classmates and professors, scorned by male patients and colleagues, they are frustrated at work and always on the run at home, where they are terrible mothers because they are too busy to find time for their children. Such complaints are what we expected to hear when interviewing several Kansas female physicians for this story, but the accounts we heard were quite different. While all the women we interviewed agreed that female physicians have different experiences from those of their male counterparts, none felt that life was very much harder or that they were treated unfairly. Some even felt being a female physician has its advantages.

Coping with Being Different

"I'm different than my male partners, and I think differently," explained Debra Doubek, M.D., of Manhattan. "I've been in practice with five men for three years now, and I'm the only woman in

this group. I might spend a little more time with patients and talk more with patients, and that's how I think that we're different." Dr. Doubek has read books on the subject of male/female differences in which the authors observe that, in general, men are more comfortable with public speaking, while women tend to talk in small groups or one-on-one to build rapport with one another. The differences, Dr. Doubek said, are not troublesome. "The more I understand it, the better I can accept it and acknowledge it, but it's never been a problem.

"When I came to this group five years ago," she said, "I feel they were unprepared for the polarization that would ensue in our practice. Women patients, when they discovered a woman doctor in the practice, wanted to go to her. That could have been a problem, so we had to work it out amongst us: 'If Dr. Doubek sees only women, she's not doing family practice.' We needed to keep the patients together, the families together as a unit. It presented new issues that had to be addressed."

Dr. Doubek has not had problems communicating with her male patients because "I bring it up. I ask them if they feel comfortable seeing me.

<sup>\*</sup>Managing Editor

We talk about it, and we work it out. Most of them feel comfortable with me, but some of them say, 'You're not doing my rectal exam. I'll go to your partners.' I'd say 70 to 80 percent of the men feel comfortable letting me do their health care."

Katherine Pennington, M.D., a retired physician in Wichita, says, "I really don't see a lot of difference [between male and female physicians]. Fortunately, I've been in places where there always were some women doctors, usually good ones. In Wichita, when I started, Dr. Frances Schiltz had been here for about 20 years. So I had almost all of my studies and also my work in an atmosphere where female physicians had been just a part of the community, of the climate there. So it hasn't really been a problem."

Susan Pingleton, M.D., on the faculty at the University of Kansas School of Medicine, Kansas City, found several ways in which male and female physicians are alike. "I see all kinds of practices now versus when I started 20 years ago, and I see the variety and the options of different kinds of lifestyles and medical practices, probably affecting men and women both more than they used to," she said. "Twenty-five years ago, when I started out, there weren't many options, actually, for men or women. If you wanted to be a doctor, you took care of patients in some setting and that was it. You worked a pretty hard life and pretty regular hours. Now you can decide. If you want to have a more structured life with more structured hours, you can go into this type of practice setting or that type of setting. People know what kind of practice or work situation they're getting into now, and they can control those better. And that's the same, I think, for men and women. I think women, especially if they're of a childbearing age, want to get into a more routine practice setting, but I see men doing it, too: people men — who go into ER because they don't want to work 24 hours a day, seven days a week. They want to stay home with their kids.

We're at a point in our culture where we're affluent enough so we don't have to be out there mining the mines to get food, water and clothing on our backs. And we [physicians] know that whatever salary we get is going to be very good, so that gives us more latitude to have options. Even within the realm of surgery, people are carving out different kinds of niches — and women are doing it, too. What I'm sensing is that there is, in some ways, a blurring of 'all women do this and men do this.' "

If It's Not Harder for Women, Is It Easier? Donna Sweet, M.D., of Wichita, says, "Very few times have I felt that [being a female physician]

is any harder, and at times it may be easier in terms of patients. I don't really think I have ever faced what many people have in terms of discrimination. I have been welcomed by males and females alike within the profession and, again, have found the male physicians around me from the very beginning, medical school on, quite supportive. I can't tell you that I think there's been a great deal of difference — once I got into medical school. I got in at a time when it was more difficult getting in because you were a woman."

Dr. Sweet agrees there can be advantages to being a female physician. "At times being a woman in this profession, especially with patients, has been very helpful," she said. "It is helpful because, right or wrong (and some of my male counterparts would say it's wrong), women are sometimes perceived, especially by other women, as more empathetic, more listening-oriented, perhaps kinder, gentler. I'm not saying that we are, but I'm saying that oftentimes there is that perception. Most men, I think, view us as less threatening or more compassionate. I think sometimes women can get by as physicians being 'maternal' easier than sometimes men get by with being 'paternal.' A lot of my male counterparts will tell you that's not fair. I'm not about to say it's not unfair — but it's been helpful. They kid sometimes about the fact that we have it easier because of what one of my male counterparts says is the misconception that we're easier to get along with.

"Also, in the business I'm in," Dr. Sweet continued, "dealing with HIV and AIDS, that's very definitely a gay population and, again, I think I was less threatening as a woman than some of the men were. I was just freer to get involved in that without some of the concerns that male counterparts might have had. Early on there was sometimes a presumption on the part of the community that if you were — especially a man — involved in AIDS care, you must have a vested interest; i.e., you might be gay. So it was easier as a woman — as a nice, straight, married woman. Nobody had any concerns. I did it because I wanted to. I like taking care of sick people.

"As an internist," Dr. Sweet added, "I do a great deal of gynecology because when I started in general medicine, there were very, very few obstetric/gynecologist specialists who were women. That has improved, but there's still not enough gynecologists to do all the Pap smears

that need to be done. Early on I developed a very heavily-sided female practice because so many women wanted another woman to do that part of their health care."

Juggling Personal and Professional Life

Of managing her personal life, Dr. Sweet says, "I chose not to have children. I view my patients sometimes as all my children. I quite frankly don't know how some of my female counterparts who have children do what they do. And I have absolutely the most exceptionally supportive husband one could ever hope to have. We got married a week before I started medical school, which was in 1976, and I could not do it without him. He is my friend, my support, takes care of me in the sense of household thir 3s: banking, the business side — then in terms of any free time I have, the luxury of not having to do housework or going to the market or doing the laundry. He literally makes sure that's all taken care of. So the time we do have when I'm not working — which he says is getting more and more limited — we spend playing golf together. That's made it much easier.'

Dr. Pennington did not have that luxury. "I always felt the fellows had an advantage in having a spouse who could do a lot of the routine things that I had to do for myself," she remarked. "But at the same time, I didn't have to take care of children and things like that. I never married, so that part of it I didn't have to do.

"I did have some concerns with my parents when they were elderly, and that did make some problems, but probably no more than the male doctors would have had. I couldn't always take time off to help them when I'd want to. But any doctor sometimes finds that they'd like to be in two places at one time."

One distinction Dr. Pingleton noted is in "how women see their responsibilities at home. Maybe the next generation won't be quite this way," she mused. "Or maybe it's like right-wing people say: women are intrinsically born to take care of other people. I don't know what it is, but there is a difference. [Women] just all take it on more. The work is not divided equally." To compensate for the imbalance, Dr. Pingleton has a babysitter/housekeeper/cook to assist with domestic chores.

"I clearly cannot be the kind of mother-house-wife my mother was," she observed. "She'd can and bake — and there's no way I can do that. Everything gets done, and then women have work over and above that. They do it, and the

person that suffers the most is they themselves. We are the last person that we give any time to. I'm not complaining — that's just reality. When I was a new, young faculty person at a women in medicine meeting, a guy, a chairman of the department of medicine, a well recognized faculty person, got up at a luncheon and said, 'If you want to succeed in academic medicine and raise a family, you're going to get less sleep.' And he was exactly right. I'm not bitter about it, but it is a reality."

Dr. Pingleton said she tries to take summer vacations "in a bolus" of two or three weeks to stay at home with her family. At those times, she enjoys baking and gardening. She noted that she tries to recreate some of the memories of her childhood by doing things her mother did, but "I can't be her."

Dr. Doubek has found similar solutions to the problem of balancing the demands of personal and professional life. "I hire good help," she explained. "I hire a full-time nanny. I hire someone to clean my home. And my husband works parttime. That's how I manage." Her group also has found a solution to physician burnout. "In our group, we each take one day off during the week; we each work four workdays. You pay for that day you take off, but I go and do volunteer work a half day at my son's school, and I feel like I'm able to do what I need to do. It helps a lot."

On the other hand, Dr. Doubek noted that male and female physicians must be careful about social interaction. "I see how my partners interact with our [male] specialists," she said, "and I think I interact with them a little differently. I don't go out and play golf with them. I don't have lunch with them. There could be some sexual overtones. I mean, if I went out and played golf with a local orthopedist, the town would be buzzing. Or if I went out to lunch with our male ob/ gyn, people would see us sitting together at that table. You just can't do that, and my partners can. I feel that I don't have as much of a personal knowledge of the specialists. That kind of carries over, because it seems that some of my partners are closer to some of our specialists. They do social things with them, and that is an advantage I don't have."

In a city the size of Wichita, Dr. Sweet said, this is not a problem. "We don't intermingle with our male counterparts. The difference is here I have female counterparts that I can intermingle with. And the socializing we do tends to be as couples. But you don't have the camaraderie with

I can remember one occasion when I was making a house call and a gentleman looked out, rather puzzled, and asked, 'My God, is that what they're sending out for doctors nowadays?'

your male counterparts that you would if they were female."

### Discrimination and Sexual Harassment

KMS President Linda Warren, M.D., of Hanover, recalls being asked in her medical school admissions interview why she was not wearing a suit. (Her answer was that she had not been able to find one she could afford that looked professional. She chose a grey flannel dress instead.) What sorts of harassment or inequalities have these physicians faced during their medical school and professional careers? Again, the answers were surprising.

"I have never had problems with either of those," Dr. Doubek stated. "I never felt in medical school or training that I was treated unequal." In fact, Dr. Doubek feels being a woman has been helpful in her career. "I feel my sex has been very advantageous. Female primary care physicians are

sought out. They're marketable."

Asked if she had ever experienced any sexual harassment or inequality because of her sex, Dr. Sweet responded, "No. I thought about that because that is always the question people ask and wish to know about. I don't know — maybe I haven't noticed, but certainly if I haven't noticed, it couldn't have been very difficult. I've worked hard — I will tell you that. I was very pleased when I was promoted from associate professor to full professor within the KU system in 11 years. Women in academic medicine, if you look at the statistics, do not rise through the ranks oftentimes as quickly as male counterparts. That was not the case with me. KU has been exceptionally supportive, and my dean and chairman here have been supportive. And Dr. Joe Meek, who's kind of one of my mentors and one of the people I give a great deal of credit to for supporting me, for getting me

into positions where I could do things that made me promotable and tenurable — I have had the luxury of that kind of mentoring that some women don't get. Because it takes someone like a Dr. Joe Meek to help you know what to do and how to do it, what's going to be necessary to move forward.

"There have been some female role models: Dr. Frances Schiltz, the first female internist in Wichita. I had the opportunity to get to know her at the end of her life — she lived to be over 90. Knowing her, seeing what her life had been like, gives you someone to emulate. She was certainly far from a traditional woman; she broke ground, in terms of being a female physician in this part of the world at a time when it had to have been absolutely horrendously difficult to be the only woman in the medical society and on the hospital staff. And yet she made a lot of difference and got a lot done. A lot of my goals and what I'd like to be like I attribute to her."

Questioned about sexual harassment or job inequalities related to sex, Dr. Pennington replied, "Nothing very significant. Of course, in our school [KU School of Medicine], we had an unusually congenial class. We had eight women in our class, which was quite unusual then. Oh, we'd get some teasing, but never actually had any real harassment."

Asked if being a woman had been either a help or a liability, Dr. Pennington replied, "In many ways, it's been an advantage, partly because I'm in pediatrics, and I find many mothers particularly like the idea of having a woman seeing their children. There is sometimes, I think, curiosity as much as resentment to find that there are women doctors — particularly when I first started in practice.

"I'd take calls for the exchange answering service here. That was before we had walk-in services, and I can remember one occasion when I was making a house call and a gentleman looked out, rather puzzled, and asked, 'My God, is that what they're sending out for doctors nowadays?' It's usually just a matter of people not being too familiar with it. I'm certain there was at least one occasion when a mother said that she was going to have to change to another doctor because her husband didn't like the idea of the children having a female doctor. But those are pretty rare."

Dr. Pennington also felt her colleagues had treated her with equal respect. "I think staying in your home territory is very helpful. Many of my class members came from Wichita, and I had

known them. It's a rather friendly atmosphere there. I had one or two professors that sometimes would make a little snide remark, but most of the professors were quite accustomed to having women in class.

"I did my internship in Minnesota," she continued, "and they had some outstanding women on the faculty there. Then I took a fellowship at Johns Hopkins under [a woman]. When you've got a woman chief, you feel very much in favor—in fact, the fellas used to think we got favored, which was a nice situation. Maybe it's just that people talk about it more, but I feel in some ways there's more discrimination now than there was 40 years ago."

Dr. Pennington, as a solo practitioner, had no problems with pay inequities. She noted that the medical school in Wichita was eager to add women to the faculty, and she had no difficulty with promotions.

She is pleased that so many women now choose careers in medicine, but "every once in a while, I'm disappointed at the attitude of resentment that some of the students seem to feel at not being treated fairly, and they're a little over-aggressive. I am surprised at the amount of prejudice some of them seem to feel. Whether the situation's changed that much, or whether the whole world has changed so women expect a lot more — I suspect the latter — I think [women] feel that they're not getting full advantage. Some of them seem to have a chip on their shoulder."

Dr. Susan Pingleton also expressed pleasure at the increasing numbers of women in medicine. "I think that will be a great modulating effect," she said. She felt her sex is both an advantage and a disadvantage. "In anybody who's trained, there's this whole pool of people who've done all that, who've met all the criteria. Now, how do you pick from those people to advance in something? I'm talking about equal qualifications. There are clearly times I've been asked to do something because I'm a woman. And there are clearly times I haven't been asked because I'm a woman. It absolutely works out both ways. Affirmative action means, or can mean, equally qualified people and then trying to increase a certain minority representation that wouldn't otherwise have gotten recognized, and I think white professional women were the greatest beneficiaries from that sort of thought. But there have clearly been things I didn't get because I was a woman absolutely, even though I was equally qualified. And that's just the way it is.

"My sense is my rising through the academic ranks has been all because of what I did or didn't do. But what I'm talking about is on a national level, there are a number of things that happen in a certain specialty, and whether you get asked to do something within a professional organization, I think, has been influenced. But I really don't think that I have been adversely affected; in other aspects of my professional life, but not my job per se.

"I think we're luckier in medicine, particularly as far as compensation. I think we're probably more equal than a lot of women in other professions.

"I cannot say that I was ever overtly discriminated against. Now, that's different from being part of the 'boys' club', though. I am one of the few women involved in a national organization. It's different there. It's clearly different. It's not somebody trying to exclude me, but they're so used to only having men around. You're just not one of the boys. For a long time that bothered me, and then I decided I don't want to be one of the boys in that sense.

"But all in all it's very encouraging. I was in medical school 25 years ago. There were 130 of us total, and I was one of six women. None of us missed any classes, because if you did you were so obvious. I never felt I was not accepted, but when I walked into the student lounge, chances are the whole room was male except me. Now they have 25, 30 percent women. Women going through today . . . more women, more support. That's really great."

### Women and Organized Medicine

"It helps give me an identity," says Dr. Doubek of her organized medicine affiliation. "It helps me mingle with people who have things in common with myself. We're all in this together; we're all fighting the same issues. And it buoys my spirit when I go to the meetings and see people grappling with the same things I am in my own little world." Asked what needs are not being met by the organizations (including KMS) to which she belongs, Dr. Doubek replied, "I can't really think of anything. If I have a need that's unmet, I'm a go-getter and I can usually find a way to solve that problem."

Dr. Pennington, who was elected president of the Medical Society of Sedgwick County in 1985, recalled, "Dr. Schiltz always felt bitter because she should have been elected president of the medical society sometime, and that never happened. But she was delighted when about 30 years later I did get to be that first female president."

Dr. Pennington became involved with organized medicine because "I just sort of expected to. It seemed to me that you really should belong to your professional organization. So many things need to be done." Dr. Pennington was KMS Constitutional Secretary in 1986-88. She was the first woman president of the medical staff at St. Joseph's Hospital, Wichita, and became active in civic causes related to medicine, such as the March of Dimes and the immunization task force.

"Certainly I believe there is a place for organized medicine," said Dr. Sweet, who is a member of the Sedgwick County society, the KMS and the AMA. "Where I have gotten *involved*, though, as opposed to being a member, is through the American College of Physicians. I am currently the Governor-Elect of the Kansas ACP. This is the first time there's been a woman in that position, which means I have a national role in the sense that the college is run by the board of governors. So for four years, I will have a national role representing Kansas. This is organized medicine trying to weigh in in favor of what's good for patients and physicians in a very difficult economic time."

Dr. Sweet observed that her work has helped familiarize her with colleagues' attitudes all around the state. "I attribute a large part of my ability to know the state as a practicing internist to what I do with HIV and AIDS," she said. "I spent a lot of time doing the circuit, stumping the state talking about AIDS, which means I'm probably one of the few Kansas physicians who can tell you exactly where Satanta, Kansas is—and every other town of under 2,000!"

Dr. Sweet hopes organized medicine will offer women "more opportunity for networking." Referring to Kansas in particular, she added, "The more rural you are, the more isolated you are and the less likely to have access to other females in similar situations, so make opportunities where people in that situation can get to know each other. Other than that, good educational, organizational and lobbying programs are good whether you're male or female.

"Those of us who are female physicians now, within our communities, our schools, our organizations, need to be the mentors for our younger women," Dr. Sweet said. "A lot of women

haven't been lucky enough to have someone that's really taken them under their wing. That's not to say a man couldn't do it, but there's enough [female physicians] out there now with some experience that we need to get into a more traditional mode like men have done for so many years, helping them through the system, helping them know what you need to do to move forward in whatever arena you choose to do it in. We have to make the time to be active in organized medicine, in our societies if we really want to make a difference."

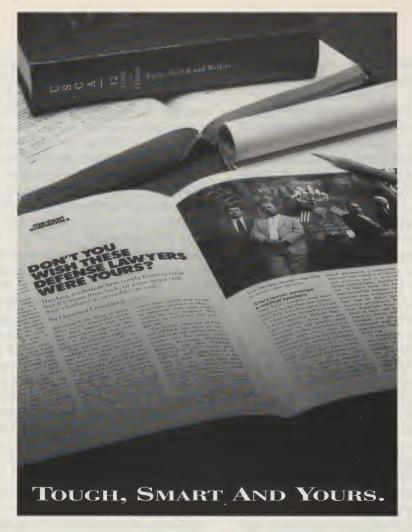
Dr. Pennington feels one way medical organizations such as KMS can benefit women in medicine is to organize events for them, such as a breakfast at the annual meeting for female physicians and female medical students.

Dr. Pingleton feels those in academic medicine may best appreciate the value of membership in organized medicine. "I think it's probably a little more natural than if you're in private practice. I mean, it is a sign of academic development. So there wasn't ever much thought of not doing it." She feels medical organizations offer individuals an opportunity to "become involved at a lot of different levels."

### **Few Complaints**

This writer was struck by the positive comments made by all the women interviewed. Though they represented several age groups and types of practice, none seemed to have been troubled by the problems one expects to hear female physicians discuss. Perhaps, as Dr. Pennington said, bonds are formed during medical school, and sometimes even earlier, that are maintained in later years. Or it may be that these women, all leading successful, well balanced lives, approached medical school and their practice years with open minds, not looking for gender-related problems and therefore not finding them.

Perhaps Dr. Doubek best expressed what the interviewees seemed to feel about their lives as women in medicine: "Oh, I do [enjoy what I do]. I get tired, and I get down in the dumps sometimes when I'm sleep-deprived and feel overworked and underpaid, but at the end of the day I think, 'Would I rather be doing anything else?' and I always think how happy I am and I feel very fortunate for what I'm able to do and the lives I'm able to interact with and influence."



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# Geriatric Grand Rounds: Hearing Impairment and Functional Independence

DANIEL L. SWAGERTY JR., M.D.,\* Kansas City

n 80-year-old man was referred to the clinic because of increasing social withdrawal and cognitive decline. The referring physician thought he might be demented or depressed. The patient's daughter stated that he didn't seem to understand what she told him and didn't pay any attention to other members of the family. The patient admitted to feelings of nervousness and low mood, especially in social situations and while watching television. He had markedly reduced his involvement in both activities over the past year. On examination, he appeared well nourished and pleasant. Vital signs were normal. Both auditory canals were impacted with cerumen. The cerumen was carefully removed by irrigation. The tympanic membranes were unremarkable bilaterally. All other physical findings were normal. His score on the Mini-Mental State Exam was 26/ 30 with losses on recall, repetition and ability to follow a three-step command. Radiometry using a hand-held audioscope revealed high-tone sensorineural hearing loss bilaterally.

#### Discussion

This patient had presbycusis, a disorder resulting from age-related degenerative changes in the peripheral and central auditory nervous systems. It is characterized by a gradual onset of bilateral and symmetric high-tone sensorineural hearing loss and an impaired ability to repeat or write words that are heard. Presbycusis is the most common form of hearing loss among older adults. The etiology is often multifactorial. Noise, diet, medication, disease and degenerative changes from normal aging are all etiologies. Older adults with presbycusis are unable to understand speech, particularly when background noise is present. The

typical complaint is, "I can hear people speaking, but I can't make out the words." This is the result of the loss of hearing (pure-tone thresholds greater than 25 dBHL) in the mid to high frequencies (1,000 to 8,000 Hz). These frequencies carry the information most critical for speech understanding, such as consonant sounds, plurals and word endings. Hearing in the low frequencies (250 to 1,000 Hz) enables us to hear background noise. Thus, background noise tends to drown out the high-frequency sounds that are so important for communication.

Hearing impairment is the third most prevalent chronic condition in community-dwelling older persons, exceeded only by arthritis and hypertension. Although hearing impairment has been reported to occur in 35% of persons between the ages of 65 and 74 years and 50% of persons older than 75 years, it is often undetected and untreated. Functional losses associated with hearing impairment are not uncommonly attributed to dementia, depression or old age. Hearing status should thus be considered when older adults are assessed for deterioration in function. This case demonstrates how hearing loss can be misdiagnosed as cognitive decline or an affective disturbance.

### Three Types of Hearing Loss

Although changes in hearing are not a universal aspect of aging, they are very common and can be put into three classifications. First, conductive hearing loss results from disorders that impede normal transmission of sound waves through the external canal and tympanic membrane or interfere with amplification by the ossicles. One important, easily remedied cause of conductive hearing loss is cerumen impaction in the external canal. This is found in 30% of elderly persons. Cerumen may be a primary or contributing cause of hearing loss, producing decrements of as much as 40 dB. Cerumen undoubtedly contributed to this patient's hearing loss.

Secondly, sensorineural hearing loss can occur

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from lesions of hair cells in the cochlea and neurons in the auditory branch of the eighth cranial nerve. Sensorineural hearing loss, other than presbycusis, may be due to Menière's disease or drugs, particularly aminoglycoside antibiotics and loop diuretics.

Finally, disturbances of the central auditory nervous system can cause hearing loss. A mixed hearing loss can also occur when several of these mechanisms are present concurrently.

**Evaluation of Hearing Loss** 

Evaluation in the elderly begins by specifically asking all older adults and their families about difficulties related to hearing. Many older patients may not volunteer this information spontaneously or may attribute any difficulty to normal aging. It is common for the functional impact of hearing loss to be underestimated until significant psychosocial consequences have already occurred. Physicians should always screen for any associated depression, cognitive decline, reduction in physical function, or social dysfunction when hearing impairment is present.

The most reliable screening test to assess hearing is the audiogram. This test can be conducted using an audioscope or desktop model. The development of the hand-held audioscope has greatly facilitated the bedside and office screening of older persons. Testing is usually performed using tones of selected frequencies and decibel levels. The failure to hear any frequency other than 4,000 Hz has been suggested as a threshold for referral for more extensive testing.

### Treatment

Most older hearing-impaired adults can benefit from amplification of sound via a hearing aid and/or an assistance listening device. Well selected amplification can improve the efficiency of communication, even in severe sensorineural hearing loss. Significant improvement in social, emotional and cognitive function can also occur with improved hearing.

Binaural hearing amplification is generally desirable. It best preserves directional clues that help in localizing sound and enhances speech understanding. The patient in this case received bilateral hearing aids and found them quite effective. If only one hearing aid is to be used, the choice of amplifying the better or poorer ear depends upon whether the poor ear has internally generated distortion. If it does, amplification is likely to detract from, rather than improve, hearing.

Aural rehabilitation should occur with any hearing aid purchase. The older adult and the family are counseled regarding the benefits and limitations of hearing aids. Suggestions for improving communication between the hearing-impaired and others are also addressed. Such a rehabilitation program was provided to the patient and his family. They felt it contributed to restoring lost function.

Other assistive listening devices can be used as adjuncts to, or in place of, hearing aids. All have one feature in common: the microphone is moved closer to the sound source and therefore delivers a louder signal that is free of surrounding noise. Hard-wire connection systems, costing less than \$100, represent the least expensive method. Wireless systems, which are more expensive, transmit sound via FM radio waves or infrared light to a receiver worn by the listener.

The telephone company offers several other assistive devices for deaf or hearing-impaired persons, usually at no additional charge if a physician has certified the individual as hearing-impaired. These include amplifiers, louder bells and light signals. The telecommunication device for the deaf (TDD) service, which links a typewriter source and a destination over the telephone line, is also available.

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Summary

Hearing loss is a commonly encountered impairment in the elderly. It can profoundly affect physical, psychosocial and cognitive function. In addition to the actual hearing loss, other factors contribute to the hearing handicap experienced by older persons. These include difficulty in understanding speech in noisy situations, difficulty in supplementing hearing with visual information, and the slowing of cognitive and psychologic processes. Many forms of amplification are available and can be very useful in reversing much of the functional impairment associated with hearing loss. A comprehensive audiological assessment should be recommended before selecting the type of hearing aid or assistive listening device. Such a referral also affords an opportunity for more extensive aural rehabilitation.

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(Continued on page 151.)

# Teenage Pregnancies in Kansas, 1980-1993

ncreasingly, attention in our state and across the nation is being focused on the consequences of teen childbearing. Teenage pregnancy is far more prevalent in the United States than in other developed western countries; the U.S. has one of the highest teen pregnancy rates in the world. The health and social consequences are serious:

• Pregnant teenagers often lack adequate prenatal care and nutrition, which can result in low birth weight, infant death, birth defects and many serious illnesses.

• Teen mothers are often forced to drop out of school and obtain less education than their peers who postpone childbearing.

• Many teen mothers have difficulty getting jobs, earn lower wages and are more likely to spend some of their lives in poverty.

• Teen mothers are more likely than older mothers to need public assistance.

• Children of teenage mothers are more likely themselves to become teen parents. They are at greater risk for abuse or neglect, lower academic achievement and social behavior problems.<sup>1,2</sup>

There are major economic consequences as well. In 1988, nearly \$20 billion was spent nationally on Aid to Families with Dependent Children, food stamps and Medicaid for families that were formed when the mother was a teenager.<sup>2</sup> According to data from the Kansas Department of Social and Rehabilitation Services (SRS), 60% of all adolescents who give birth to a child in Kansas receive some sort of public assistance, and 80% of teen parents who have a second child become long-term welfare dependents.<sup>3</sup>

### Teen Pregnancies in Kansas

Kansas statistics reveal that teenage females accounted for 14.6% of the pregnancies in the state in 1993. A teen pregnancy is defined as a live birth, fetal death or abortion occurring to a female under 20 years of age. Three-fourths (4,799) of the teen pregnancies in 1993 resulted

Reported by: Karen Sommer, M.A., Office of Research and Analysis, Center for Health & Environmental Statistics, Kansas Department of Health and Environment.

in a live birth, nearly one-fourth (1,580) in abortion and the rest in fetal death (26). Seventy-seven percent of the teen pregnancies in 1993 were to unmarried females. White teens accounted for 5,133 (80.1%) of the teen pregnancies in 1993, African American teens for 1,029 (16.1%), and Hispanic teens for 515 (8.0%). Thirty percent of the teenage females who were pregnant in 1993 had experienced at least one prior pregnancy.<sup>4</sup>

Of all women having their first live birth in 1993, 25.4% were teenagers. The low-birth-weight rate for teens in 1993 was 88.8 per 1,000 live births, compared to 62.3 for non-teens, making the rate for teens 42.5% higher. In 1993, 85.5% of non-teen mothers who had a live birth received prenatal care in the first trimester of pregnancy, compared to only 68.3% of teen mothers. The percentage of teens who received no prenatal care (1.8%) was more than double that for non-teens (0.8%).<sup>4</sup>

The good news is that the number of teenage pregnancies for Kansas residents declined 26.3% between 1980 and 1993. During 1993, there were 6,045 teenage pregnancies, compared to 8,687 in 1980. As shown in the figure, pregnancy rates for Kansas teens ages 10-19 decreased 22.3% between 1980 and 1993. The Kansas teenage pregnancy rate was 25.5% lower than the U.S. rate in 1980 and 42.9% lower in 1991.

The reduction of teen pregnancies is a critical public health goal for Kansas. The Kansas Department of Health and Environment (KDHE) has been involved in a number of activities related to teen pregnancy in the past few years. KDHE produces teen pregnancy tables that include numbers and rates for the state and individual counties. These data are available to local communities and to maternal and child health consultants to identify high-risk communities and to implement services in these communities.

### Programs to Reduce Teen Pregnancies

In order to help teenagers avoid the negative outcomes of early childbearing, KDHE has incorporated teen pregnancy intervention into a number of its programs. For instance, the Healthy Start home visitor provides special supportive services to pregnant or parenting adolescents. Mother and Infant (M&I) prenatal services provide more intensive assistance for the pregnant adolescent through social work, nutrition and health services. Family planning services include special counseling for adolescents regarding effective contraceptive use, relationships and involvement of family. All maternal and child health programs (M&I, Healthy Start, Family Planning and WIC) are helping teen mothers and their children deal with the serious economic, social and health effects of teen pregnancy.<sup>3</sup>

Since 1991 community-based teen pregnancy prevention projects have been funded through KDHE in four Kansas communities: Salina, Topeka, Wichita and Winfield. These communities replicated a successful South Carolina model based on the premise that people will attempt to solve their problems if they are aware of the problems and are assisted in identifying solutions. All members of the community receive educational messages related to teen pregnancy through media campaigns, workshops and teen speaker bureaus, which motivate community members to actively support healthy life choices for teens.<sup>3</sup>

As a result of special state general fund appropriations in the past few years, KDHE and SRS have been working together in developing strategies to reduce teen pregnancy and long-term welfare dependency by teen parents. This combined effort has resulted in several grants being awarded to counties and communities with high teen pregnancy rates.

A plan developed in 1995 by KDHE and SRS involves providing comprehensive case management services to Medicaid-eligible adolescents under 20 who are pregnant or have a first child. Currently, projects are funded in Douglas, Geary, Montgomery, Sedgwick and Wyandotte counties. The case manager assists the adolescent in identifying and accessing services and supports necessary to successfully accomplish an individualized plan that will help them to help themselves. These services continue until the adolescent achieves the goals set out in the case management plan or leaves the program at age 21.<sup>3</sup>

In 1994 teen pregnancy peer education/counseling projects were funded in 3 counties: Finney,

Sedgwick and Seward. These projects provide a variety of activities around tested curricula that use professional and peer educators, peer counseling, and youth/parent learning and communication opportunities.<sup>3</sup>

KDHE also funds two residential maternity homes in Lawrence and Wichita for enhanced adolescent services, including repeat pregnancy reduction. Upon leaving these programs, teens are contacted at one- and two-year intervals to assess the projects' success in assisting them in spacing future pregnancies and in achieving personal health, education and vocational goals.<sup>3</sup>

A recent report by the Kansas Adolescent Health Alliance (KAHA), addressed adolescent health issues in Kansas and included a section on teen pregnancy. The KAHA report *Adolescent Health Kansas Profile*, 1995 proposed the following recommendations to address the problems of teenage pregnancy:

• Enhance and promote comprehensive school health education (life skills) for kindergarten through twelfth grade that is mandatory in all schools.

• Fund and expand community-based teen pregnancy prevention initiatives for both males and females.

• Fund and evaluate case management services to help low-income teen mothers delay a second pregnancy.

• Create a centralized, coordinated body (public/private partnership) to provide local, community-based teen pregnancy prevention programs with technical assistance, training, statewide media support, etc.

• Target at-risk youth by developing apprenticeship programs that foster success and independence.<sup>5</sup>

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# I Study Medicine

ARTHUR E. HERTZLER, M.D.

The first order of business was to select a medical school. I chose Northwestern University, on the advice of my preceptor, because the entrance requirements were relatively high — that is to say, the equivalent of a high school course — and the medical course required attendance for three years of seven



months each. The course was graded, classes being taught separately so that one advanced from year to year. Of course, all schools do so now, but Dr. Davis, the dean, got the idea first and it found practical expression in Northwestern. It was a happy choice. The faculty contained a number of medical men of the first rank in professional knowledge, coupled with high character, things essential to the making of a good teacher. Also valuable, it may be added, to keep the students in the straight and narrow way while they were attending school. Dr. Davis was a teetotaler against anything but hard work. Getting "stewed" was not the respectable thing then that it is now. If a student got drunk and Dr. Davis

found out, that was the last of Mr. Student. Of course, the doctor did not learn all that was going on. We had some students in those days from Milwaukee.

A summary of the teaching as it was offered to us is of historic interest. The modern student will compare it with his own experiences with a sense of satisfaction to himself no doubt.

All teaching, save chemistry, was done entirely by men in active practice. Our school had but two full-time men, the professor of chemistry and the janitor. Of necessity, therefore, instruction in the scientific branches was for the most part very meager. For instance, the slides of histopathology, which were prepared for us, I reckon by the janitor, rivaled in thickness and translucency a restaurant beefsteak. One advantage was that the student could not see enough to permit him to embarrass the teacher by asking any pertinent or impertinent questions. I remember well my slide of small round-celled sarcoma. It was shaped like the state of Texas and was a deep mahogany brown. I could always identify it by its shape and got a ten for doing so at examination. Not a single cell was recognizable.

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### **GERIATRIC GRAND ROUNDS**

(Continued from page 148.)

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### KANSAS MEDICINE

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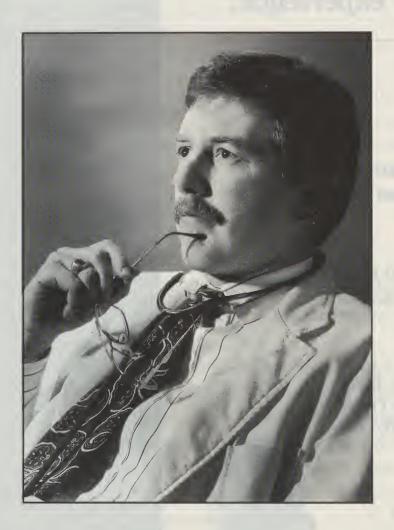
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### **ABOUT OUR LOGO**

In January 1935, a new logo appeared on the cover of KANSAS MEDICINE for the first time. This device represents two stethoscopes: the original monaural type as used by Läennec, and the modern binaural variety. The logo was designed expressly for KANSAS MEDICINE by renowned graphic designer Bradbury Thompson, a native of Topeka and friend of two former editors of the journal, Dr. W.M. Mills and Dr. Lucien Pyle. As another former editor, Dr. Orville R. Clark, wrote in January 1955, the logo "has become as much a part of the journal as any of the features on the inside and is something which is ours alone."

he cover photo shows the mitre of the Archbishop Arsenii, one of the fine examples of Russian craftsmanship that was part of the "Treasures of the Czars" exhibition held in Topeka during 1995. Those who failed to take advantage of this most impressive six-monthlong display of artifacts from the 300 years of Romanov rule missed a spectacular opportunity that, unfortunately, will probably not be repeated.

The impressive headpiece was presented to the archbishop by Empress Elizaveta Petrovna, daughter of Peter the Great. The inscription "Presented to Arsenii, Archimandrite of the Troitse-Sergiev Monastery by Empress Elizaveta Petrovna November 25, 1744" is stamped on a gold band that runs along the lower edge of the mitre. Made of brocade, silk, gold, precious stones, pearls, glass and gold thread, it is more than an impressive work of art. It represents a blending of the religious and political powers that characterized the early Romanov dynasty.

The gold brocade is decorated with sparkling brilliant-cut diamonds, rubies, and smooth, carefully selected pearls — clearly a royal endowment, the work of the finest court artisans. The enamel panels that cover it contain portraits of the three-figured Deesis (Christ with the Virgin Mary on his right and John the Baptist on his left); the guardian angel; St. Zachary and St. Elizabeth (the empress' patron saint); St. Sergei of Radonezh and the Patriarch Nikon, founders of the Troitse-Sergiev Monastery; and the Trinity, on a lozenge-shaped panel in the center of the mitre. In addition to these religious icons, there are pearl-embroidered images of the twoheaded Russian eagle under a crown, an orb and scepter in its claws. This was the symbol of Russia, adopted in 1472.

Thus, it would seem, there existed a close relationship between the church and the crown in the early days of the Romanovs' rule. This relationship seems to have been lost or diminished in later years; the last item in the exhibition is the famous 1913 Fabergé Easter egg commemorating 300 years of the Romanov dynasty. Covered with enamel portraits of each czar on the outside, the egg opens to reveal a blue-and-gold enameled miniature globe decorated with the continents. There are no religious

(Continued on page 157.)

## Perceptions

local hospital regularly surveys its patients on a variety of subjects regarding their perceptions of the care they received during their stay. This hospital also surveys the medical staff on care and the quality of care rendered by the hospital



and nursing staffs. There are differences between patients' and physicians' responses regarding their perceptions of what constitutes quality care.

The patients list, in descending order of importance, friendliness, access (with minimal waiting time), involvement in the decision-making process, education about their condition and its treatment so they can make intelligent choices and decisions, and short waiting time for services. They desire a more "holistic" attitude in their health care experience: one in which their other needs — mental, spiritual, emotional — are considered and addressed, in addition to their physical problem. They consider themselves more than an ulcer, a heart or a broken femur.

Communication is very important to patients, as it should be. We physicians have been told innumerable times that 80% of lawsuits are the result of poor or no communication between doctor and patient. Communication influences the patient's perception of quality medical care. What we might consider a "touchy-feely" approach is more important to them than high-tech care — although they don't want the physician to cut costs or employ less than quality methods. And the quality of service, as measured by outcome, is also valued by patients.

The physician is an important factor in the patient's satisfaction regarding the hospital stay. In order of importance, patients ranked: involvement of staff, nursing, physician, room, food, and ancillary services (respiratory, x-ray, lab, admissions), in that order. The doctor may be considered the linchpin in the patient's satisfaction with his or her hospital stay.

When patients listed the desirable qualities of their personal physician, the two most important were discussing and answering questions, and relieving the patient's stress level. Not so important, surprisingly, were personal attention, courtesy, and spending time with them. Again, it was communication on items they considered necessary for their education and peace of mind that guided their perception of quality care.

These items also correlate pretty well with patient loyalty: 78% of those surveyed had personal physicians. Of those, 40% will change physicians. While blue-collar workers are less likely to have a personal physician, they are more likely to exhibit loyalty to that doctor. Reasons given for changing physicians were, in order of importance: different specialist required by their condition, their doctor retired, insurance (only 8%) and quality of service (billing, office staff, waiting time).

As we enter the era of managed care, the physician would be well advised to heed these survey data and adjust one's practice accordingly. What we perceive to be quality care may not match the expectations of our patients. If we remember to treat patients as we would like to be treated, or to have our loved ones treated, our future will be bright and our success assured. After all, satisfied patients can be an important source of referrals.

Having become a patient myself, and having spent more time in physicians' waiting rooms, I have had several occasions to hear patients talk about doctors. The most frequent complaint is the failure to explain in layman's terms and to answer questions. As members of a learned profession that has knowledge not known to most people, we have a duty to educate and counsel our patients so they have the information they need to make an informed decision. Relegating that duty to staff is not proper. The patient has engaged us for that purpose and deserves our time and effort in establishing the doctor-patient relationship — a relationship that we argue mightily for in front of governmental agencies that would enact laws that could limit or replace it. If it is so important to us, it is worth cultivating and strengthening.

In closing, I would ask you to read what Dr. Arthur Hertzler wrote about the doctor-patient relationship. It appears in this issue's "Horse and Buggy Doctor" column. If Dr. Hertzler saw this as an emerging problem in his day, it is even

more important in our time. Patients will gravitate to those who make them feel cared for. This explains why quacks and so-called religious leaders, under the pretense of caring about their followers and their needs, are able to con them and take advantage of them. When physicians legitimately satisfy this need in their patients, it is good for both the patient and the doctor. W.E.M.

### **COVER STORY**

(Continued from page 155.)

icons nor any indication of a religious connection on the egg. It is a most impressive example of the Fabergé genius and workmanship, yet perhaps it symbolizes the loss of a sense of divine guidance and with it a loss of values that resulted in the rulers being placed above their people and oppressing them, ultimately paving the way for the Russian Revolution. This in turn led to the tragic fall of the House of Romanov and their brutal massacre by the Communists. Only recently has the full story of that fateful, final night in 1918 become public. Perhaps there is a message in these magnificent artifacts.



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# Things Are Changing — For the Better

hings are changing. How many times do we say that? How many times do we give that as an explanation for what is happening when we have no clue as to any other way to respond? How many times do we use it as an excuse for not having dealt with



difficult issues to make a workable situation?

But this time the phrase is not a cop-out. It is not a "put-off." It is a real statement of what is happening at KMS — not a response to external forces, but a proactive move that we hope will help all our physicians. It is the establishment of a western Kansas KMS office.

As some of you may remember, I discussed this possibility at the Annual Meeting last May in my address to the House of Delegates. Later the concept was endorsed by both the Executive Committee and the Council — from then on we had our marching orders. After much examination of the possible locales and a study of the desired functions of the office, we decided to position it in Hays. We are currently advertising and interviewing to hire one person to staff it. That person will be quite unique, because he or she will have to be interested in being on the go, spending about 75% of his or her time on the road in the western part of the state, contacting physicians and, in a sense, bringing KMS to them.

The intent behind opening the office is to increase involvement of western Kansas physicians in the activities of KMS. Membership recruitment will be stressed, with personal visits made to all non-members in the region. Packets explaining the benefits of KMS membership, including information on Heartland Health, KaMMCO and MSC, will be available. Member retention activities will be an important part of the new employee's work. This will be accomplished through learning what physicians need

and finding ways to provide it. Physician support will be provided through coordinated educational opportunities, help with tasks such as dues billing and collection for county societies without office staffs, planned events to bring area physicians together, and regular personal contact. At this time, the western Kansas office is approved and funded as a two-year pilot project. If it is successful, it will be continued.

We have made arrangements with KaMMCO and Heartland Health to have a presence in this office, and they will share the expenses and salary of the employee. This will help to make these other arms of KMS more accessible to western Kansas physicians. KaMMCO and Heartland Health may add their own staff members to the office as the need arises.

I am very pleased at the way the concept of the western Kansas office has been supported by physicians across the state — not just in western Kansas. As I travel, I receive nothing but enthusiastic endorsement of the plan to be in that area serving more physicians. In fact, physicians in southeast Kansas already have expressed an interest in a similar office for their area.

Our members do see the need for us to act together, to be able to communicate with one another and meet problems with constructive solutions. This type of collective action and understanding can only be accomplished by better communication. We sincerely hope that this will be only one of many successful activities of KMS to unify and serve the physicians of Kansas.

Yes — things are changing at KMS. Today that means a new office to better serve a large part of our rural membership. And tomorrow: yet more progress in furthering communication among Kansas physicians.

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## New CDC Guidelines for HIV Testing

WAYNE T. STRATTON, J.D., \* Topeka

he Centers for Disease Control and Prevention (CDC) recently released recommendations for HIV counseling and voluntary testing for pregnant women. Former guidelines, issued in 1985, recommended that physicians concentrate on



testing pregnant women known to be in a highrisk category. The current guidelines, however, advise doctors to strongly encourage all pregnant women to undergo testing for HIV infection.

The new recommendations were developed following a National Institutes of Health (NIH) study which found that pregnant women can reduce the chances of passing HIV to their babies by almost two-thirds if given AZT or ZDV therapy as soon as they test positive during the pregnancy, and the newborn continues with the therapy for the first six weeks after birth. The goal of the guidelines is to identify HIV-positive pregnant women as early in the pregnancy as possible through a voluntary testing program.

The CDC hopes that the new guidelines will develop into the standard of care for medical providers across the nation. Providers can follow their current procedures for pre- and post-test counseling, such as outlining what high-risk behavior is, and what therapy is available.

The new guidelines include the following recommendations:

- Health-care providers should counsel all pregnant women about HIV and encourage them to be tested.
- HIV testing of pregnant women and their infants should be voluntary. Women who refuse or test positive for HIV should not be denied

health care services, be discriminated against, or be reported to child protective services.

- Counseling and testing should be offered as early in the pregnancy as possible.
- Involuntary testing should never be substituted for counseling and voluntary testing.
- Health-care providers should provide appropriate post-test counseling for all pregnant women, and discourage infected mothers from breast-feeding.

### Informed Consent Issues

Although the recommendations stress voluntary testing, providers still need to obtain informed consent before testing any patient. In order to comply with informed consent standards, providers should explain to the mother exactly what HIV is; how it affects her body, health and pregnancy; and what current treatment options are available. The provider should also explain the benefits and negative aspects of testing.

In terms of obtaining the actual consent, providers can take a right-of-refusal approach, or obtain specific consent. When the provider tells the patient the test will be performed unless she objects, it is known as right-of-refusal. Specific consent is asking the patient directly if she wants the test, then waiting to obtain her answer verbally or in writing. Although some physicians maintain that the patient's verbal consent is all that is necessary, it is often in the provider's best interest to use a consent form for any test or medical procedure. By signing, the patient states that she received the necessary information and considered all the issues involved, and that she made an informed decision to have the test administered. A consent form can have the added advantage of giving the patient pause to think of additional questions or concerns before signing, rather than just verbally agreeing to what the physician suggests.

A provider needs to avoid coercing a patient into having the HIV test. One way to handle a hesitant patient is to offer the patient the option of returning later for further discussion so she can have time to think about her decision. This option is especially useful if used before the 14th

\*KMS Legal Counsel.

Comments made herein are not intended as a substitute for legal analysis or advice. Answers to legal questions depend largely upon the particular facts of a case. The reader is urged to consult an attorney for answers to specific legal questions.

These comments do not necessarily represent the views of KANSAS MEDICINE, or the Kansas Medical Society. For further information, contact Mr. Stratton, 515 S. Kansas Ave., Topeka, Kansas 66603.

week of pregnancy, as the AZT therapy will be delayed until then.

Reporting Duties

Under Kansas law, when a physician has information indicating a positive test for HIV, the physician must report the result within one week of obtaining the results of the test. This requirement does not change under the new guidelines. The report must be made to the Secretary of Health and Environment and must include: the type of test, date the test was administered, result, sex, date of birth, county of residence, and racial and ethnic group of the person tested. If the physician is reporting a positive test for HIV only, the patient's name need not be given. However, if the test is positive for AIDS, the patient's name must be provided, along with all the above information.

A physician should tell a patient about the reporting requirements before administering the test. This allows the patient to make a sound decision, fosters a better relationship between provider and patient, and may avoid breach-of-confidentiality complaints later on. The provider should emphasize that any information given to the secretary of health and environment is held in the strictest confidence and is revealed only to a limited number of people on a need-to-know basis.

Pending Legislation

Although the CDC explicitly maintains in its guidelines that testing pregnant women for HIV should be voluntary, there is a bill pending in Congress that would require states to mandate HIV testing of all babies born to women who do not receive a prenatal HIV test. The Ryan White CARE Act provides states with grants for care of people with AIDS. However, the proposed bill would make the mandatory testing a prerequisite to receiving funds. Until May 10, 1995, the CDC had a policy of anonymous testing of newborns and prohibited disclosure of the results even to parents. However, the CDC currently has no policy on testing newborns.

The CDC recommendations are just that — recommendations. For physicians, however, they may soon be the standard of care in the health-care profession. Providers should be sure to obtain informed consent before giving the HIV test, and to comply with all reporting requirements currently in force.

## Information for Authors

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# The Case Against an Emergency Medicine Residency in Kansas

LARRY R. ANDERSON, M.D.,\* Wellington

mergency medical care is an integral part of any health delivery system. Kansas citizens deserve the best emergency care that can be reasonably provided considering the wide variation in emergency health care needs and the frontier

status of some parts of Kansas.

An article in the Spring 1995 issue of KANSAS MEDICINE by John Jeter, M.D., and Dennis Allin, M.D., would suggest that the next step in Kansas emergency medical care is the development of an emergency medicine residency at the University of Kansas School of Medicine. Physicians who have completed residency training in emergency medicine and are diplomates of the American Board of Emergency Medicine are usually well qualified to provide emergency medical services. The fact of the matter is, however, that few Kansas hospitals can afford their services. Furthermore, the health care system of the future will divert most of the current ER traffic to offices of primary care physicians for comprehensive, continuous, cost-effective health care, as opposed to episodic, non-comprehensive and expensive emergency room services.

As the national debt forces Medicare/Medicaid reform, with shifting of direct medical education (DME) and indirect medical education (IME) reimbursement away from the historic in-patient model, it seems unwise to fund the establishment of another hospital-based residency at the University of Kansas School of Medicine (Kansas City or Wichita campus).

Drs. Jeter and Allin quote a study<sup>2</sup> which states that "few institutions without emergency medicine residency programs had formal curricula for their residents or students." I would hope this is not the case at the University of

Kansas School of Medicine! If it is, I am certain that these two physicians are actively striving to develop a formal curriculum to ensure that all KU medical students and residents will receive structured teaching in emergency medicine. Excellent emergency medicine training for general pediatricians, general internists, family physicians and general surgeons is critical, as these doctors have been and will continue to be the physicians providing emergency medical services in most Kansas communities.

Drs. Jeter and Allin cite retrospective studies by McNamara and Kelly<sup>3,4</sup> to suggest that ER services provided by emergency medicine residency graduates are of higher quality and more cost-effective than those provided by other physicians. These poorly devised studies compare 90 days of ER care provided in a community hospital by a nine-physician group (of whom three were board-certified in internal medicine and six were not board-certified) with 90 days of ER care one year later, after an emergency medicine residency was established. The emergency medicine residency was staffed by 16 faculty physicians (15 were board-certified in emergency medicine; all 16 were single- or doubleboarded), with the additional 24-hour-a-day presence of at least one and often two second- or third-year emergency medicine residents. This first study<sup>3</sup> was based on a review of paperwork (i.e., charting) with no attempt at actual measurement of patient outcomes. Sixty-one percent of the patients were seen by a resident prior to consultation with the attending faculty. From an evaluation of the chart, these investigators concluded that better care was provided by the emergency medicine residency faculty and residents. An additional wrinkle is that the criteria used for this paper review were policy guidelines developed by the American College of Emergency Physicians — guidelines which we must assume were well known to the emergency medicine residency faculty. It seems unfair to grade the paperwork of the first group of physi-

<sup>\*</sup>Family physician, Sumner County Family Care Center. Address correspondence to Dr. Anderson at 1323 North A Street, Wellington, Kansas 67152

cians against a second group which had twice the work force and who were probably more concerned about care of the chart than the first

group of physicians.

The second article<sup>4</sup> by McNamara and Kelly studied the same physician groups, the same time periods, and the same community hospital emergency room services to conclude that emergency residency-trained physicians provided lessexpensive services in caring for patients with viral upper-respiratory infections, pharyngitis, acute asthma, seizures, lumbosacral strain, and cervical strain. This article admits that "test-ordering behavior of housestaff is significantly influenced by their attending staff," and that "recently, medical faculty have been exhorted to teach the value of cost-effective care." This exhortation may have been the stimulus which prompted the emergency medicine residents and faculty to save money by ordering fewer throat cultures, lumbar x-rays, and cervical spine x-rays than did the previous ER physician group. The real issue, however, is that except for a few of the asthma and seizure patients, this ER population should have been seen in the offices of their personal physicians, not in the emergency room!

In their article, <sup>1</sup> Drs. Jeter and Allin project that within a few years of establishment of an emergency medicine residency, the quality of emergency care in Kansas will be substantially

improved in communities of "greater than 20,000." Even if this is true, what about the other 95 Kansas counties?

At a time when funds for education of students and residents will be limited, and in a state where the majority of emergency departments will be staffed by local physicians or moonlighting residents, we should not establish a new emergency medicine residency in Kansas City or Wichita. However, we should coordinate statewide efforts in support of Drs. Jeter, Allin and other excellent teachers of emergency medical care to insure that student, resident and CME training is adequate to provide well trained physicians for all Kansas emergency medical needs.

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## A General Practitioner in Turn-of-the-Century Kansas: W.A. Carr, M.D. (1877-1975)

NANCY D. BARNES, C.A.G.S., M.A.; AND ANGELA D. CURRAN, M.H.A.\*

Kansas town of Junction City bustled with a population of 7,000. It was rural Geary County's largest community, located approximately 65 miles west of Topeka and a few miles south of Fort Riley, a U.S. Army base. The county's citizens were engaged in a variety of occupations as shopkeepers, federal government personnel, mill workers, railroad employees, agricultural workers, and providers of professional services.

In 1911, Junction City had a dozen physicians. Although the closest community hospital was in Topeka, and medical care was financed on a cash, credit, or barter basis, the area was fortunate to have the benefit of many dedicated, horse-and-buggy doctors.

Country Doctor and Community Leader

Walter Austin Carr, M.D., was one member of this pioneering cadre of physicians. A native Iowan, Dr. Carr received his medical degree from Northwestern University in 1905. In 1906, he opened his Junction City medical office above a downtown drugstore. His career would eventually span five decades in the town. Dr. Carr displayed a remarkable commitment to the county and its people. He served as president of the Chamber of Commerce, functioned as a mediator on a liaison committee between Junction City and Fort Riley, was active in public service organizations such as the American Legion and the Masonic Lodge, and was



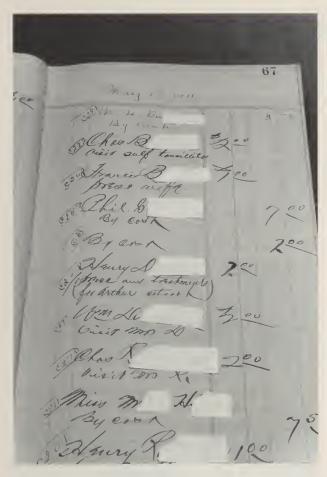
Walter Austin Carr, M.D., in World War I uniform. Photo courtesy of the Geary County Historical Society Museum.

involved in public health issues. Records show he was a member of the Kansas Medical Society.

As a leader in public health at the local level, Dr. Carr sponsored a Junction City ordinance that prohibited the sale of unpasteurized milk. This is historically noteworthy since tuberculosis was a major public health concern in Kansas during the first two decades of this century. Dr. Carr's community efforts were reflective of a statewide initiative to combat the deadly disease; the latter even included a tuberculosis exhibit that toured the state with a display of a "model dairy." 1

\*Address correspondence to Angela Curran at Archives for Family Practice, American Academy of Family Physicians Foundation, 8880 Ward Parkway, Kansas City, Missouri 64114-0418.

Acknowledgments: The authors wish to thank Dr. Carr's granddaughter, Suzanne Morantz, without whose assistance and cooperation this article would not have been possible. Also, special thanks to David Newman and Sharon White of the Geary County Historical society, and Susan Case of the Clendening Library of the History and Philosophy of Medicine at the University of Kansas School of Medicine.



A page from Dr. Carr's day book, May 13, 1911.

One of Dr. Carr's most far-reaching endeavors was his involvement, in 1913, in the establishment of the first hospital in Geary County. As a member of a group of six founding physicians, Dr. Carr served as secretary of the board of officers and incorporators of the Junction City Hospital. A local newspaper article in 1915 proudly described the institution's surgical facilities:

"The operating room is perfectly lighted and is equipped with modern appliances for successful operations....The operating room is supplied with a high pressure sterilizer for the pressure sterilization of instruments, towels, bandages, etc."

The same article also describes the medical advances of the era:

"Of all the professions perhaps none has made more progress in the last generation than that of medicine and surgery. The discovery of general anesthesia...the determination of the cause of suppuration in wounds...the discoveries in the laboratory of the origin of disease and the antitoxins with which to combat it;...the invention of various instruments to examine the hidden parts of the body, as well as a new source of light by which even the skeleton is plainly seen."<sup>2</sup>

While there were many medical and technological advances that benefitted Kansans in the early 1900s, the general practitioner was truly the primary health care provider in the community. Dr. Carr's long and successful career in the Junction City area is testimony to his service and commitment to these citizens.

During the early years of his practice, Dr. Carr maintained a daily, written record of his medical activities in a "day book." One of his descendants recently donated the book, covering the period 1911-13, to the Archives for Family Practice, administered by the American Academy of Family Physicians Foundation, Kansas City, Missouri. For more than two decades, Dr. Carr was a member of the American Academy of General Practice. This organization, founded in 1947, changed its name in 1971 to the American Academy of Family Physicians. The following excerpts from Dr. Carr's day book offer glimpses into the daily life of a family physician of his era.

### May 13, 1911

May 13, 1911 was a fairly typical day for Dr. Carr. He saw five male and six female patients. Of this group, eight were adults and three were children or adolescents. As was customary, patients had the option of visiting Dr. Carr at his office at 701½ N. Washington Street or requesting a home visit. On this date he made three house calls to adult patients.

Continuity of care is apparent upon examination of the day book. When a patient's condition is not specified on a particular day, earlier or later entries often list the condition for which treatment is sought. Consequently, it can be determined that on May 13 Dr. Carr's patients were treated for the following: tooth abscess, accidental injuries, catarrh, gynecological dysfunction, stomach ulcer, syphilis, tonsillitis, and urethral stricture.

A longitudinal analysis of the entries in Dr. Carr's day book shows that some conditions were chronic, such as Mrs. William D's ulcer. Dr. Carr visited Mrs. D at home more than fifty times in six months. Although not quite as severe, the catarrh suffered by Mr. Henry D's son required nine treatments over two months, including cauterization of the nose. Mr. Albert K required "sounding" for his urological problems



First Junction City Hospital (1913-1921), located at 2nd and Adams. Photo courtesy of the Geary County Historical Society Museum.

nine times in two months. (A sound was a long, slim, slightly conical instrument of steel for exploring and dilating the urethra.)<sup>3</sup> Some patients sought treatment from Dr. Carr on a continuing basis for various acute conditions. Typically, families with children and individuals exposed to contagious diseases comprised this group.

A doctor of 1911 prepared himself for any condition he might encounter in the course of his daily practice. Certain entries in the day book indicate that Dr. Carr consulted with other physicians in Junction City. He also called upon other doctors to administer anesthesia during operations, but these situations resulted more from cooperation than from strict medical referrals.

On May 13 Dr. Carr billed 11 patients for \$17.00 in charges, but received no payment for services rendered that day. However, he did collect \$20.50 for five outstanding accounts. After a 60-day period, his receipts for medical services rendered on May 13 came to \$11.00, equalling a 65% collection rate.

### The Cost of Health Care, 1911-13

Payments for medical care were made in a variety of ways, and Dr. Carr appeared to adjust his practice accordingly. Since many Junction City employers distributed paychecks only once a month, the accounts receivable ledgers of community doctors probably fluctuated with the cash flow of their patients.

Sometimes an individual with a different surname than the patient would be listed as the payer of a bill. It is difficult to know in every case

what the relationship was between the patient and the payer, but the prevalence of extended families in that era likely accounts for some of those payment arrangements. There may also have been instances where concerned friends paid for the treatment of an indigent individual.

In other cases, patients had to resort to bartering their furniture and household goods to pay an overdue bill. Such was the case in November 1911, when Mr. and Mrs. William D traded Dr. Carr a chair, some shades and a buffet to pay for \$56.40 of their bill for treatment of Mrs. D's stomach ulcer.

Dr. Carr's charges for medical care were consistent during the three-year period represented in the day book. A routine office call cost \$1.50. House calls cost \$2.00, unless they required lengthy travel, in which case he would charge more and note "country" or indicate the actual mileage traveled. He typically traveled on foot or by horse-drawn conveyance. If his patient was at Fort Riley, he may have used the streetcar for the six-mile round trip.

Childbirth was an ordeal for both patient and physician. Dr. Carr charged \$15.00 for a birth with no complications. The time required to attend most labors and deliveries accounts for the relatively high cost. The charge rose to \$25.00 if the birth required forceps.

Most medical procedures cost \$1.50. Sometimes these required the use of an instrument, such as for Mr. Albert K's sounding. Procedures also included dressings for wounds, the application of ointments, and irrigation of an affected area.

### Conclusion

Today the general practitioner, now known as the family physician, is in critically short supply in many parts of Kansas. Geary County now has a population of 30,000 and, with a ratio of one physician per 3,000 people, it is recognized as one of these underserved areas. In an effort to cultivate more primary care physicians for the county, Junction City will soon become one of five "outpost" locations that the University of Kansas School of Medicine has designated as a family practice residency training site.<sup>4</sup>

From an archival perspective, an historical artifact such as Dr. Carr's day book offers a tangible glimpse into the past. Not only can it encourage and cultivate a greater understanding

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## Information Technologies in Healthcare

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ealthcare is fertile ground for information technologies. There are tremendous amounts of money in this industry; in fact, the U.S. economy in healthcare is more than the gross domestic product of all but a few countries. Thus, the demand on the "center of the universe" of healthcare, the medical record, is tremendous and growing rapidly. Paper systems can no longer adequately meet the demand.

We now look to computer systems (hardware and software) for answers to these information needs. Hardware is scientific, structured and rigorous, and is developing rapidly. Software design is artistic and abstract and facilitates most of the interface between computer and user. Together they continually increase their presence in the

processes we use.

#### Software

There are several software approaches to information management, each with strengths and weaknesses. They include text processing, spreadsheet, database, knowledge base and neural network. Text processing has rich expression capabilities but doesn't handle large amounts of information well and is not amenable to queries. Databases handle large amounts of information efficiently, but lack the ability to provide a tailored medical record. Knowledge-based systems provide pre-processing. As symptoms and findings are recorded, the knowledge system narrows the differential diagnosis list. Adaptive neural networks (able to learn from physicianpatient encounters and predict the protocol for the optimal outcome) are in their early infancy, but as these mature they will change the character of medical practice more than any previous evolutionary event. This will be the true future shock — surpassing the profound effect of managed care on the medical community.

Two variables are interdependent: "human

ware" and information technology. Humans have always strived for new and better ways of doing things, yet have resisted their implementation at the "front line." We don't like change. Yet change will occur in healthcare as physicians assimilate new ways of doing things and as technology becomes friendlier, more transparent and embedded in the processes we use.

Making Data Available

As information technology develops and is implemented, there will be increased quality with decreased cost of healthcare. An area of importance to us all is data capture. Keyboard input is inefficient, error-prone and time-consuming. Light pen, stylus, handwriting recognition, and voice recognition are developing methods of handling data capture efficiently. Improvements will be seen in adjacency, the time between data generation (i.e., physical examination) and data capture (i.e., recording of findings). This will result in a more complete and accurate medical record. The information also will be available sooner to others with the right and need to know it. To ensure maximum value from this medical record, connectivity is crucial.

Connectivity (availability of medical information to anyone who has the right and need to know) is a formidable and important barrier to efficient information management. There are different computer software operating systems, various computer hardware systems, incompatible applications software, and limited networking. There will be "survival of the fittest" in data interchange technology and standards. The most effective and efficient driving force for this will be informed and educated consumers, demanding high connectivity. This will be very important to managed care organizations, which work with populations rather than individuals, and they likely will lead the thrust for greater connectivity. As connectivity is improved another hurdle arises: how to display all this information in a meaningful way.

High connectivity results in tremendous amounts of information. How can it be managed? What are the goals of this management?

\*Medical Director, Family MedCenter Send correspondence to the author at 315 N. Hillside, Suite B. Wichita, Kansas 67214. Complicating this issue is the diffuse nature of a patient's health information. It is literally more than a lifetime long. Multiple providers are involved. Multiple facilities are used to consume healthcare. Powerful and sophisticated computer systems will be needed to keep complete records. Once data capture and connectivity are solved, the greatest challenge will be pre-processing and processing of data.

Pre-processing and processing will metamorphose data to information, information to knowledge, knowledge to disease management planning, then to disease prevention. Expert systems and neural networks will be involved in this transition.

Using Technology Wisely

Each advance in technology gives us something, but it also takes something. We should ask questions when a new technology arrives. What are the ethical issues? What are the side effects? What will be the unintended consequences?

Maintaining the patient's best interest as the central theme during this infusion of information technology into our profession may be a daunting task. Maintaining our professionalism may also be challenging. Practicing physicians must take the leadership role in harnessing this medical information revolution. We must implement information technologies to serve the patient, not the system.

#### MEDICAL MILESTONES

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of previous events, but it can also offer insight into current and future activites. Family medicine, like other specialties, can benefit from the preservation of its professional heritage, as it provides the contextual framework in which the specialty's evolution and development may be examined. The preservation of such artifacts in archives also serves as a tribute to the many dedicated physicians like Dr. Carr who, several generations ago, set the pace for the medical journey that continues today.

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#### Continue Title X

A potential crisis looms on the horizon. Family planning funds have come to the states' health departments from the Title X program of the federal government. Recently the House deliberated for quite a period of time before agreeing to continue the Title X program. There is no way of knowing whether the Senate will be willing to go along with the funding or whether the monies ultimately will be transferred to the states in block grants.

If the states were to receive block grants and family planning funds be included therein, it seems important that in Kansas we should be prepared to have our legislators in 1996 direct specific financial support to the program. Only then will this important sociomedical activity be continued at its current level or, better yet, be enlarged.

The family planning program is delivered only to persons with incomes one and one-half times the poverty level or less. It currently serves approximately 55,000 women in Kansas. For the majority of the women who receive this service, it is their only source for maintaining women's health. A complete physical as well as laboratory work, Pap smear and contraceptive prescriptions are included. The program gives these women education, infection discovery, cancer prevention, general health evaluation, etc. It should not be associated with the mistaken idea that abortion is foremost in the minds of those agencies which are rendering this service. In Kansas, local county health departments and Planned Parenthood clinics without abortion involved.

I urge Kansas physicians to be aware of what happens to the family planning funds as this issue passes through the U.S. Senate. It is important that physicians be prepared to inform their patient voters and hence the Kansas legislators of the need to maintain financial support for the family planning health services. Without such a service, welfare subsidies will probably increase and require additional monies from Kansas taxpayers. With the program the number of abortions would potentially be reduced through a reduction in illegitimacies.

Donald J. Smith, M.D.
Past President
Johnson County Medical Society

# Primary Care Specialty Choices of University of Kansas Medical Students, 1982-1991

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rimary care specialty choices of medical students in their first and fourth years were correlated to 1) compare practice choices at two timepoints, 2) look for trends in primary care specialty choices by gender and year of graduation, and 3) observe the effect of a first-year clinical apprenticeship assignment on residency choice. A convenience sampling of a cohort of 10 graduating classes of medical students (1982-91) from the University of Kansas School of Medicine in Kansas City was used, employing a before-after design. It included 1,769 students (1,249 males, 520 females) who had participated in a required clinical apprenticeship during their first year. Freshmen students' top medical specialty choices largely dictated clinical assignments for an apprenticeship of approximately 15-20 hours over a five-week period. We compared first- versus fourth-year medical specialty choices by students, observed the trend over time in primary care choice by gender and year of graduation, and correlated first-year clinical assignment with subsequent choice of a primary care residency. Over 10 years an average of 45.5% of students chose primary care in the first year and 53.1% in the fourth year (p = 0.41, NS); over 10 years, there was a significant decline in trend of primary care choices by men (p < 0.001), but not by women; and both apprenticeship assignment and students' first choice were significant predictors of eventual residency choice of a primary care specialty.

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#### Introduction

There is concern about decline in interest in primary care specialties by U.S. medical school graduates.<sup>1,2</sup> Legislators of states with large medically underserved rural areas, as well as those from heavily urbanized areas, have questioned whether or not their state schools are doing everything possible to ensure adequate numbers of primary care physicians.<sup>3</sup>

Some state legislatures have considered mandating that a certain percentage of each graduating class must choose primary care if the medical school wants to avoid budgetary penalties. Medical school faculties need to examine their curricula to determine if there is conscious or subconscious effort on their part to diminish graduates' interest in primary care in favor of subspecialties and surgery.

Choice of a medical specialty is not static, but changes over time. Babbott, et al.<sup>5</sup> noted that the 1987 USA cohort of senior medical students, as compared to the 1983 cohort, were significantly more likely to choose general and subspecialty internal medicine, pediatric subspecialties, psychiatry, obstetrics and gynecology, anesthesia, radiology and rehabilitation medicine and less likely to choose family practice, general surgery, pathology and public health.

Decisions to enter family practice seem more likely to be made early in medical school, or even prior to entering medical school, than are decisions to enter other specialties.<sup>6-8</sup> However, medical school courses were found by Nieman, et al.<sup>7</sup> and Greer and Carline<sup>8</sup> to be a major factor in the choice of family practice versus other primary care or non-primary care specialties.

Controlling one's lifestyle has emerged as a very important factor in medical career choice, and its importance may be increasing with time. Although income was a significant factor, loan indebtedness was rated by graduating medical students from California in 1988 as one of the

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least significant influences for specialty choice.<sup>10</sup> In spite of this, however, the economic factor cannot be ignored.

To date no study of medical student specialty choice has addressed gender specifically, though Lieu, et al.<sup>10</sup> found that 1988 graduates who entered primary care specialties versus technology-oriented specialties were significantly older and included more women. In studying residency choices of medical school honors graduates, Golden<sup>11</sup> noted that male honor students were likely to choose surgical disciplines, while female honor students tended to choose pediatrics or obstetrics and gynecology.

Whatever the causes for the current decline in interest in primary care specialties, two recent writers have crystallized the problem. Colwill concluded his study by stating that "neither society nor the medical profession benefits from the decline in interest in primary care."12 Petersdorf<sup>13</sup> concluded that "in our country the generalist specialties suffer from the Rodney Dangerfield syndrome — they get no respect." He observed that the medical community should seek to have 50% of medical school graduates enter primary care specialties, accomplishing this before it is mandated by law.

At the University of Kansas School of Medicine, first-year students are introduced to clinical medicine by brief apprenticeships to practicing physicians in a course entitled "Clinical Sciences II." This apprenticeship consists of weekly half-day visits for five consecutive weeks. Clinicians in the community are invited to participate in the course, and each year about 80 physicians in the Greater Kansas City area volunteer to teach in this program. Each physician may be assigned from one to six students per semester, on one or two afternoons a week, one student at a time. Since 1978, the first-year students have been offered the opportunity to express their preference about which specialty they wished to visit, by ranking the choices in their order of preference, from a list of special-

Because this same assignment scheme was repeated year after year since 1978, it seemed worthwhile to investigate whether one might be able to discern a relationship between students' first-year choices and assignments and their ultimate residency specialty choices. We analyzed these data for the School of Medicine of the University of Kansas graduating classes of 1982 through 1991 to 1) determine whether or not

there was an association between the primary care choices of first-year medical students and their subsequent residency choices; 2) determine if there was a trend over time and whether gender was important in the choice of a primary care discipline (family practice, internal medicine, pediatrics, med/peds) for residency; and 3) determine whether primary care residency choices appeared to have been affected positively or negatively by assignment to their first choice in the first-year apprenticeship experience. In other words, did specialty preferences among medical students change from their first to their fourth years? If so, how? Was there a change in specialty choices over time and according to gender? Was assignment to a specific specialty, whether wanted or not, related to the ultimate residency choice, and if so, how?

#### Method

Each year, in late summer/early fall, we invited physicians in the Greater Kansas City community to volunteer to teach in the medical school course and to accommodate from one to six students during the upcoming spring semester of the first year of medical school. Three modules consisted of five weeks each. Visits were scheduled for half-days for these five consecutive weeks. Physicians could volunteer for all three modules, once or twice weekly. Most signed up for once weekly and three modules, thus being assigned a total of three students.

When we had an adequate number of physician volunteers for each of three Tuesday and three Thursday modules (usually around 30 physicians each module), we listed the available specialties and subspecialties (but not physician names) for each of the six modules so that the students could select from them in their order of preference. The number of specialties available to the students varied according to the modules, the day of the week and also the specific year, but commonly included the following specialties: allergy, cardiovascular disease, dermatology, family practice, gastroenterology, hematology, internal medicine, neurology, obstetrics and gynecology, otorhinolaryngology, pathology, pediatrics, pediatric cardiology, physical medicine and rehabilitation, pulmonary diseases, radiology, rheumatology, surgery (cardiovascular, general, neurological, orthopedic, plastic), and urology. Some specialties (e.g., anesthesiology, ophthalmology, psychiatry) were never offered in this course because of the logistical difficulties in

TABLE 1
FIRST AND FOURTH YEAR MEDICAL SPECIALTY CHOICES FOR ALL MEDICAL STUDENTS
AND ACCORDING TO GENDER
(Classes 1982-1991), number (%).

<u>Group</u>	Primary Care	Med/Ped Subspecialties	Surgical Subspecialties	<u>Other</u>	<u>Total</u>
Males(n=1249)	532 (42.6%)	128 (10.3%)	566 (45.3%)	23 (1.8%)	1249 (100%)
	624 (50.0%)	21 (1.7%)	323 (25.9%)	281 (22.5%)	1249 (100%)
Females(n=520)	273 (52.5%)	59 (11.4%)	178 (34.2%)	10 (1.9%)	520 (100%)
	315 (60.6%)	9 (1.7%)	88 (16.9%)	108 (20.8%)	520 (100%)
All(n=1769)	805 (45.5%)*	187 (10.6%)	744 (42.1%)	33 (1.9%)	1769 (100%)
	939 (53.1%)*	30 (1.7%)	411 (23.2%)	389 (22.0%)	1769 (100%)

----1st year choice\*

---residency choice (p=0.41,N.S.)

readily adapting these practices to our program. Some specialties (e.g., family practice, internal medicine, and pediatrics) included a number of physicians and so were always offered, while others (e.g., neurosurgery) might include only one physician.

The students' preferences were computermatched with the available specialty slots, so that students received their highest possible preference ranking. Typically, 90% or more received one of their first three choices. Preliminary matches were made to give each student his or her highest possible choice of available specialties. Iterations were run up to 30 times so that students who received low choices would have the opportunity to move to a higher choice. This might result in lowering the choices of those who initially received their first choice. The repetition helped to make the matching as equitable as possible for all students; more than 30 iterations proved not to be better.

After the matching process, the students were assigned to a specific physician, whom they would be scheduled to visit one afternoon per week for five consecutive weeks. Students were advised that the purpose of the visit was to observe the physicians with their patients. More active participation was left to the discretion of

each physician. All students and physicians had an opportunity to evaluate the experience, and with rare exceptions from either group, the feedback was positive.

A record was kept of the first choice of each student as well as the assignment each received. Eventual residency placements were obtained from the office of the medical school dean upon graduation and were tracked even when students did not graduate with their original class. In the event of a preliminary or transitional program (such as occurred frequently with internal medicine, which serves as a first-year requirement for some specialties), every effort was made to discern the ultimate choice by the graduate (e.g., anesthesiology, ophthalmology, etc.).

Analyses. For the sake of simplicity, both the first-year choices and the residency choices of specialties were combined into categories as follows. The primary care specialties were designated as medicine, general pediatrics, family practice, and combined medicine/pediatrics (med/peds). Medical and pediatric subspecialties included allergy, cardiovascular disease, dermatology, gastroenterology, hematology, nephrology, neurology, pulmonary disease, and rheumatology. Surgical subspecialties were cardiovascular, general, neurosurgery, obstetrics

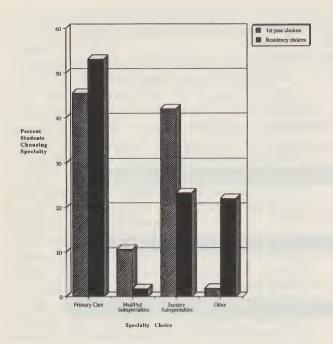


Figure 1. First- and fourth-year medical student specialty choices, both genders combined, 1982-1991 classes (n=1,769)

and gynecology, ophthalmology, orthopedics, otorhinolaryngology, plastics, urology, and vascular. A category "other" applied usually to residency choice and included anesthesiology, emergency medicine, pathology, physical medicine and rehabilitation, psychiatry, radiation oncology, and radiology.

To determine whether there was a correlation between the practice choices of the first-year students and their ultimate residency choices, we cross-classified each student in a contingency table array. We used McNemar's tests for the difference in related proportions to analyze these data. We used statistical tests for linearity of trend in proportions to determine statistically significant trends by gender in residency choice of primary care specialties according to year of graduation. <sup>14</sup> Multiple logistic regression was used to determine significant predictors of primary care residency choice from among first-year choice and assignment categories.

#### Results

The total number of students who entered the University of Kansas School of Medicine in the 10 classes was 1,936 (1,365 males, 571 females), with a range from 174 to 203 per class. A number were excluded from the final analysis because of death (1), withdrawal, dismissal, transfer, student error in marking computer cards, or because the student was still in school (especially in the original 1990 and 1991 classes). Of the total of 1,936 students, 167 or 8.6% were excluded (8.9% of all females and 8.5% of all males). This left 1,769 students (1,249 males, 520 females), who were included in the study, and all were accounted for.

Association of practice choices in first versus fourth years. Table 1 shows the numbers and percentages of all medical students (classes 1982-91, total and by gender) whose first choice as a first-year student was one of the primary care specialties, a medicine/pediatrics subspecialty, a surgical subspecialty, or other, as well as the number and percentage of students who, as graduates, selected residencies or specialties in those same general areas. See also Figure 1. According to Table 1 and Figure 1, 45.5% and 53.1% of the first- and fourth-year students, respectively, chose a primary care specialty (p =

TABLE 2
NUMBER OF MEDICAL STUDENTS WHO CHOSE A SPECIALTY IN THE FIRST YEAR, AND THE NUMBER AND PERCENT WHO ALSO CHOSE THE SAME SPECIALTY ON GRADUATION (Classes 1982-1991).

Specialty	No. who chose specialty in the first year	No. (and %) of original first ye students who chose the same specialty on graduation
Primary Care	805	502 (62.4%)
Med/Ped Subspecialties	187	10 (5.3%)
Surgical Subspecialties	744	261 (35.1%)
Other	33	17 (51.5%)
Total	1769	790 (45.0%)

0.41, NS). Med/ped subspecialties dropped from 10.6% in the first year to 1.7% in the fourth, surgical subspecialties dropped from 42.1% to 23.2%, and other increased from 1.9% to 22%. Over this same time interval, males increased from 42.6% to 50.0% in choice of primary care, while females increased from 52.5% to 60.6%.

Primary care choice over 10-year period. Figure 2 shows the percentage trends in selection of a primary care specialty displayed according to year of graduation and according to gender. It can be readily appreciated that the percentage of males entering primary care decreased over the time period 1982-91, whereas that of females did not show a downward trend. Statistical tests for linearity of trend in proportions showed no significant trend of primary care selection over time by women, but showed a significant decline in the trend of males selecting primary care (p < 0.001).

We wished also to look at changes made by individuals, and we considered how many individuals of each group who had chosen a particular specialty at the beginning of medical school persisted to the end with that same choice. For example, of the original first-year students who chose a primary care specialty, Table 2 shows that 62.4% chose primary care again at graduation, whereas only 35.1% of those who had chosen surgery in the first year actually pursued a surgical specialty, and of all students, 45% persisted with their original choice.

Effect of first-year primary care choice/assignment on residency choice. The impact of the apprenticeship experience in the first year on the eventual career choice was studied by relating four categories of assignment possibilities with eventual residency choice of primary care. These assignment categories were: 1) primary care first choice and also assigned; 2) primary care first choice but not assigned; 3) assignment to primary care in spite of this not being the student's first choice; and 4) primary care not first choice and primary care not assigned.

Table 3 shows the numbers and percentges of students in these four categories and how their eventual residency selection related to that of their first-year choice/assignment combination with respect to primary care. A higher percentage of primary care residency choice was made by students whose first choice in the freshman year had been primary care, regardless of assignment (62.1% and 63.9%), as opposed to those whose first choice had not been primary care but who had either been assigned to a primary care apprenticeship (53.7%) or not assigned to primary care (42.7%). Difference among the four categories was significant (p < 0.001,  $X_2$ ). On multiple logistic regression both the first choice as well as the assignment were significant predictors of eventual residency choice.

#### Discussion

We wished to determine whether or not there was a correlation between the residency and first-

TABLE 3
FINAL CAREER CHOICE RELATED TO CLINICAL FIRST-YEAR ASSIGNMENT IN PRIMARY CARE FOR GRADUATING CLASSES 1982-1991

First year clinical apprenticeship (Choice vs. assignment)	Primary Care	Final career (residency) choice Other n(%)	Total n(%)
1. Primary care first choice and and first choice assigned.	417(62.1)	255(37.9)	672(100%)
2. Primary care first choice, but first choice NOT assigned.	85(63.9)	48(36.1)	133(100%)
3. Primary care NOT first choice but assigned to primary care, anyway.	122(53.7)	105(46.3)	227(100%)
4. Primary care NOT first choice and NOT assigned.	315(42.7)	422(57.3)	737(100%)

year choices of medical students, as well as any trend in choice of primary care specialties based on gender and year of graduation from medical school. Table 1 shows that 45.5% of all entering medical students for all years combined chose primary care disciplines, and this increased to 53.1% as graduating medical students (NS, p = 0.41). Obviously, first-year choices may not always have reflected the students' preferences but rather their desire to have a far different experience than their intended eventual practice choice. Realistically, residency choices were affected, not only by the graduates' preferences, but by the availability of residency positions throughout the United States.

There is remarkable agreement between Table 2 and the choice versus assignment categories in Table 3, in that 62.4% of the same students who chose a primary care assignment in the first year at the University of Kansas School of Medicine also chose a primary care specialty on graduation, regardless of their choice/assignment category in the first year (62.1% and 63.9%, respectively). Assigning students to primary care in spite of their not choosing it appeared to have some effect on ultimate residency choice (53.7% versus 42.7% of those not assigned to primary care). Further, it should be noted that one cannot depend on year-to-year trends in specialty choices. One needs to observe the pattern over a five- or 10-year period for greater accuracy. This is particularly appreciated in Figure 2, which displays a marked gender trend difference in choice of primary care over 10 years.

With efforts to encourage more interest in primary care among U.S. medical students, medical school faculty need to consider realistically how much change they can effect. As already noted, there are many and varied reasons for medical graduates' choice of specialties, some probably intertwined with their decisions to go into the medical profession in the first place. This should be considered by committees for medical school admission. For the most part, the medical school curriculum appears to serve as a useful conveyance to help students reach their professional goals.<sup>3</sup> In addition, the financial status of individual students must be reckoned with, along with the status of the general economy.

Our findings suggest that many medical students may already have decided on their career choice as they entered medical school. For the majority of them, the medical school first-year

clinical curriculum appears to have had little or no effect on their decision, and faculty encouragement of a specialty may be less important than the students' own goals and preferences. On the other hand, assigning students to primary care when it was not their first choice appears to have affected the decision to choose a primary care residency (53.7%), as compared to those who were not assigned to primary care (42.7%). So over half the students from this medical school, including many of those not interested in primary care initially, decided to specialize in primary care.

It may be speculated that the declining trend in selection of primary care by men as contrasted with women has an economic basis. Beyond the possibility of greater interest in technical specialties by men, it is probable that men are more likely to seek a higher income in the practice of medicine than women and probably more likely to have the greater income in two-income families.

Finally, one must consider the facts that women were clearly more interested in primary care medicine than men in the first year of medical school (52.5% versus 42.6%) and in the choice of residencies during the fourth year (60.6% versus 50.0%), and that their interest in

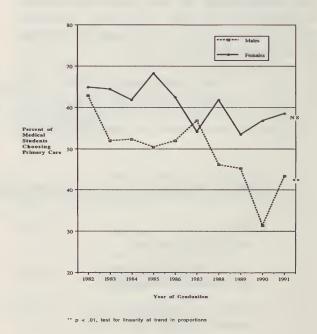


Figure 2. Trends in total primary care residency selections by year of graduation and by gender.

primary care was steady over the period 1982 to 1991, as compared to the declining interest by men at the University of Kansas (Figure 2). Taken at face value, this suggests that admitting a greater percentage of women to medical school might provide a greater number of primary care physicians. Whether or not the contemplated changes in America's health care system will force more men into primary care disciplines, one might speculate that an even greater percentage of women will choose this practice option in the future.<sup>15</sup>

#### Conclusions

We have analyzed data of specialty choices of 1,769 medical school graduates according to gender from classes 1982-1991, from the University of Kansas School of Medicine in their first and fourth years in the medical school curriculum with special reference to primary care specialties. Almost half of all students chose a primary care specialty on admission(45.5%), and over half on graduation (53.1%). Both the students' first choice of specialty as well as the specialty assignment were significant predictors of eventual residency choice. Though the trend of selection of primary care specialties by women over time was stable, there was a significant decline in primary care selection by men over the 10-year period reflecting the decline noted generally in the U.S. in the past three decades. 15

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### Hemophilia and AIDS in Kansas

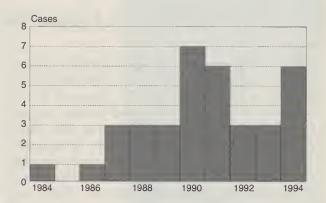
emophilia is an X-linked recessive disorder in which there is a defect in some of the blood coagulation factors. In general, women carry the trait and men have the clinical disorder. New mutations account for about one-third of cases. The incidence of hemophilia is approximately one per 7,500 males.

In Kansas, there are an estimated 163 persons with hemophilia. The hemophilia nurse coordinator in the Department of Health and Environment (KDHE) currently provides services to over 100 of these persons and their families.

Nationwide, more than 50% of hemophiliacs who received factor replacement therapy before the mid-1980s became infected with HIV. The first Kansas case of AIDS reported in an adult with hemophilia was diagnosed in 1984. The first reported pediatric case was diagnosed in 1991. Thirty-six cases have been reported to KDHE as of mid-1995. Twenty-two (61%) of those cases are known to have died. Twenty-two (61%) of the hemophiliacs with AIDS in Kansas lived in the Kansas City or Wichita metropolitan areas.

The age range at time of diagnosis for hemophiliacs with AIDS in Kansas is 13 to 60 years, with a median age of 31 years. Of the Kansas AIDS cases with hemophilia, 81% are white. The number of cases diagnosed year by year is shown in the figure. Common diagnoses of Kansans with hemophilia and AIDS have been the wasting syndrome (39%), pneumocystis carinii pneumonia (25%), esophageal candidiasis (19%), and cryptococcosis (11%).

The management and treatment of hemophilia have undergone significant changes with advances in factor replacement products, genetic evaluation, surgical options and home therapy. Hemophilia treatment centers (HTCs) offer comprehensive medical care to persons with hemophilia. Because Kansas does not have an HTC, Kansans with hemophilia rely on out-of-state centers. To increase access to hemophilia



Hemophiliacs with AIDS by year of diagnosis: Kansas, 1984-1994.

care, Nebraska and Missouri HTCs provide ongoing outreach clinics in Kansas.

Eligibility for the state hemophilia program is determined through application to KDHE. Those meeting financial eligibility criteria receive factor replacement therapy and an annual comprehensive evaluation at a hemophilia treatment center. Improvements in donor screening and manufacturing processes have made factor products free of HIV since the mid-1980s. Further information about hemophilia can be obtained by contacting the hemophilia nurse coordinator at 913-296-8024. Additional information on AIDS can be obtained from the AIDS epidemiologist at 913-296-5587.

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### Does Iron Cause Atherosclerosis?

DAVID G. MEYERS, M.D.,\* Kansas City

he lower incidence of atherosclerotic cardiovascular disease in women has never been adequately explained. Frequently advanced is the argument that estrogen-induced changes — perhaps of lipids — are operative, and that these protective changes may be lost at menopause. Yet, estrogen clearly increases cardiovascular mortality in men. Appearing first in 1976, several not-widely-appreciated reports from the Framingham cohort have shown that the risk of heart disease in women is increased equally by natural menopause, simple hysterectomy or hysterectomy with bilateral oophorectomy.

In 1981, Sullivan first proposed the so-called iron hypothesis, suggesting that iron depletion through regular menstrual blood loss protects

women against heart disease.1

The iron hypothesis is biologically plausible. Oxidized low-density lipoprotein cholesterol (LDL-C) appears to be the lipid moiety most responsible for atherosclerosis.<sup>2</sup> LDL-C becomes oxidized when it comes in contact (in the absence of antioxidant enzymes, vitamins and other proteins) with free radicals such as hydroxyl radical (OH), oxygen radical (O<sub>2</sub>-), or peroxyl radical (H<sub>2</sub>O<sub>2</sub>-). Reactions known as Haber-Weiss or Fenton chemistry

 $O_2$ - + FE+3  $\longrightarrow$   $O_2$  + Fe+2 Fe+2 +  $H_2O_2$   $\longrightarrow$  Fe+3 + OH- + OH change poorly reactive free radicals, such as hydrogen peroxide ( $H_2O_2$ ), into highly reactive ones, such as hydroxyl radical (OH), using iron as a catalyst.<sup>3</sup>

Atherosclerotic lesions are rich in iron, and the gruel from these lesions is able to induce lipid peroxidation, a reaction inhibited by the iron chelator desferrioxamine. Similarly, susceptibility to oxygen reperfusion damage can be diminished by desferrioxamine.

Several epidemiologic studies have found associations between indicators of body iron sta-

tus (hemoglobin, serum iron and serum ferritin) and both cardiovascular events and mortality. In men and women, hemoglobin and hematocrit correlate positively with coronary artery disease. The Nutrition Canada Survey noted a direct association between serum iron and fatal myocardial infarction, but no association with either dietary or supplemental iron.<sup>4</sup> Salonen and associates,<sup>5</sup> in a paper which has evoked much controversy, reported a two-fold increase in risk-factor-adjusted risk of acute myocardial infarction among 1,931 Finnish men with serum ferritin levels >200 mg/l, as compared to men with lower levels of serum ferritin. The presence of carotid atherosclerosis is also strongly predicted by serum ferritin.

Conflicting with these observations are several other studies which found no relationship between iron and atherosclerosis. Iron overload resulting from hemochromatosis or multi-organ hemosiderosis is not associated with an increased prevalence of coronary artery disease.<sup>6</sup> Nor have associations been seen in two very large prospective cohort studies.<sup>7,8</sup> These studies measured iron intake — a poor indicator of iron status. Others have noted a lack of association with transferrin and with serum ferritin.<sup>9</sup> Recently a large prospective cohort study of 2,026 Icelandic men and women followed over 8.5 years found that iron, hemoglobin and serum ferritin did not contribute to the risk of ischemic heart disease.<sup>10</sup>

If the iron hypothesis is correct, what are the implications? First, of course, it would explain, at least in part, the lower prevalence of atherosclerosis in women. Pre-menopausal women have serum ferritin levels less than half those of men. These levels rise with cessation of menstruation. The iron hypothesis might also suggest that cyclic post-menopausal hormone supplementation with continued menstruation might be more effective than non-cyclic post-menopausal regimens. Last, blood donation, with its 250-mg iron loss, might have health benefits to the donor. Donating a single unit of whole blood lowers serum ferritin levels in men, almost to the levels found in post-menopausal women. No further decrease occurs with additional donations.

<sup>\*</sup>Send correspondence to the author at Division of Cardiovascular Diseases, Depts. of Internal Medicine and Preventive Medicine, KUMC-KC, 3901 Rainbow Boulevard, Kansas City, Kansas 66160-7378.

At present, while appealing, the iron hypothesis is unproven, and we must await large prospective cohort and clinical trials.

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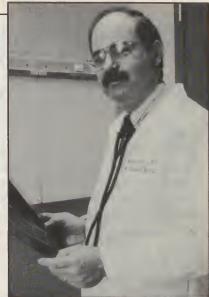
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### Gastric Duplication Cysts

JAMES T. HARRIS, M.D., AND RICHARD A. AHLSTRAND, M.D., \* Wichita

An asymptomatic 45-year-old female with known uterine fibroids presented for a follow-up pelvic sonogram. A left perineal mass was incidentally identified. The patient's physical examination was unremarkable, and serum electrolytes were normal. There was no significant abnormality on her complete blood count.

**Imaging Findings** 

The ultrasound examination demonstrated a 3.7 x 5.2 cm hypoechoic mass, with a thin hyperechoic rim, adjacent to the superior aspect of the left kidney (Figure 1). A subsequent abdominal CT revealed a 5 x 6 cm, low-density mass in the left upper quadrant, which appeared separate from the adrenal gland (Figure 2). At laparotomy, a benign gastric duplication cyst was removed.

#### Discussion

Enteric duplication cysts are rare, although they may occur anywhere along the alimentary tract. The most common site is the ileum, followed by the esophagus, jejunum, colon, stomach and

appendix.

Gastric duplication cysts usually manifest as asymptomatic, upper-abdominal masses. They tend to have a smooth coat, contiguous with the gastric wall. The inner lining is composed of alimentary epithelium, which is not always gastric in nature, but may resemble the lining of the small bowel or colon. The mucosal lining sometimes produces enzymes and hydrochloric acid, which can lead to symptomatic ulceration and fistula formation. Gastric duplication cysts may also contain ectopic pancreatic tissue, or communicate with the pancreatic duct, resulting in recurrent pancreatitis.

Sonographically, gastric duplication cysts appear as anechoic or hypoechoic cystic masses.

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Figure 1. Ultrasound examination. The 3.7 x 5.2 cm gastric duplication cyst (1) is clearly seen, although the hyperechoic rim is not well visualized in this view. It is adjacent to the superior aspect of the left kidney (2) and slightly separated from the spleen (3).



Figure 2. Contrast-enhanced CT examination. The dark gastric duplication cyst (1) is visualized posterior to the stomach (2) and medial to the spleen (3). The adrenal gland (4) appears separate from the cyst.

The peripheral rim of smooth muscle tissue is anechoic, while the internal mucosal lining produces a thin, echoic layer. CT appears superior to

(Continued on page 184.)

\*Dept. of Radiology, UKSM-Wichita Address correspondence to Dr. Ahlstrand at 1010 N. Kansas, Wichita, KS 67214.

## The Doctor-Patient Relationship

ARTHUR E. HERTZLER, M.D.

The intimate contact between doctor and patient as here set forth is passing. The sphere of influence of the family doctor is being wiped out by regimenting medical practice as we find it in the hospitals and clinics. It is wholly obliterated by contract practice and politically controlled institutions. It is possible to regiment organic disease, perhaps, but the more intimate touch between doctor and patient cannot be so controlled. That is a growth in years. It is as impossible as to have our intimate friends selected by proclamation.

Certain kinds of suffering react better to a doctor whom the patient knows and respects. This is particularly true of those cases where grief and bereavement enter the picture. These patients will tell their family doctor intimate things, where they would be mute before a hospital interne. This is true of all complaints of nervous origin, or that have a strong nervous element except, of course, in the case of those neurotics who specialize in complaints and enjoy ill health. That the personality of the doctor is an important element is proved by the fact that medicine prescribed by a young assistant may produce no favorable result but the same medicine prescribed in a slightly different form, by a long-known doctor, may produce happy results. Silly, perhaps, but people are like that.

A great difficulty still confronts doctors and concerns vitally the patients. The science of medicine has made advances almost or quite beyond conception. The science becomes an art when applied to the treatment of the sick. Artists differ in capacity. The medical art available to any one person depends on the capacity of the one practicing the art. That is the task now, to assure the greatest capacity of the individual practitioner. Certainly the ultimate will not be achieved if either the boss of the factory or a political boss is allowed to select the doctor. Efficiency can be hoped for only if the patient is allowed to select his own doctor. The science of medicine is abstract, the relation of doctor and patient is something else.

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#### YOUR OLDER PATIENT

### Malnutrition in the Elderly

DANIEL L. SWAGERTY JR., M.D., M.P.H.\*

Case History

An 82-year-old white female presented for follow-up of atrial fibrillation on digoxin 0.25 mg each day, her only medication. She was last seen 6 months previously and was in good health, but had since lost 20 pounds. Her son had died shortly after her last visit, a subject on which she lingered during the interview. She related being sad and tearful most of the time. The daughter who accompanied her was concerned about her mother's increasing isolation and weight loss. She also related a two-year history of her mother being more forgetful and less motivated. These symptoms had become much worse after the death of her son.

The patient lived alone in an elder high-rise and got along well with the support of her daughter and two daughters-in-law. There was a congregate meal program in the apartment building, but the patient had never participated and refused to do so. The family prepared meals and delivered them to the patient, but frequently noticed they were not eaten. They also took her on grocery-shopping trips to select foods of her preference, but again, much went uneaten. The patient had been invited to live with her daughter, but refused to leave her own home and was insistent about remaining independent.

Her physical examination revealed a weight of 115 pounds and a height of 5 feet 5 inches tall. Vital signs were unremarkable. Physical examination revealed her to be edentulous with well-fitting dentures. No oral lesions were present. There was early temporalis muscle atrophy. Heart sounds were irregular/regular with a soft I/VI systolic murmur. Fat stores seemed diminished with some muscle atrophy. Neurologic examination indicated short-term memory loss, but no focal neurologic deficits. All other physical findings were normal.

Laboratory studies showed her serum electrolytes, BUN, creatinine, glucose, TSH, T4, and hematologic profile to be within normal lim-

its. Serum albumin was 3.5 and total cholesterol was 150. Digoxin level was 1.8. An electrocardiogram showed atrial fibrillation with a rate of approximately 80.

Her digoxin dose was reduced to 0.125 mg/day, and she was scheduled for follow-up two weeks later. Home health care was ordered with a nurse and social worker scheduled for an initial visit the next day.

#### Discussion

This patient is malnourished and at tremendous risk for further nutritional compromise if interventions are not provided. The prevalence of malnutrition among the elderly can be as high as 40% in outpatients, 60% in the hospitalized, and 80% in nursing home residents. There are multiple risk factors for the development of poor nutritional status in older people. Malnutrition places older people at risk for excess morbidity and mortality, much of which can be reversed with intervention.

The etiology of nutritional compromise is often multifactorial and spans a wide gamut of psychosocial and biomedical problems. A classification adopted from White, et al. is provided in Table 1. Inappropriate diet, poverty, isolation, and functional impairment all play a role in inadequate food intake. A common pathogenic etiology is strict compliance with a prescribed diet (e.g., low salt, low fat, low cholesterol). Dysphagia, the inability to feed oneself, and immobility are also important causes of malnutrition. Medication use, acute and chronic disease, and age-related physiologic changes are involved in most elderly who become undernourished.

Identifying risk factors that contribute to malnutrition in the elderly is the first and most important aspect of assessment. This patient demonstrates how more than one factor usually plays a role. She was socially isolated, refused an available food assistance program, and was reluctant to accept additional family support. In addition, depression and dementia were apparent and in need of further evaluation. She was taking digoxin, which often causes anorexia in the

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#### TABLE 1 RISK FACTORS ASSOCIATED WITH POOR NUTRITIONAL STATUS IN OLDER AMERICANS<sup>3</sup>

Inappropriate Food Intake
Meal/snack infrequency
Quantity/quality
Milk/milk products
Meat/meat substitutes
Fruit/vegetables
Bread/cereals
Fats
Sweets
Dietary modifications
Self-imposed
Prescribed
Compliance
Alcohol abuse
Chronic Medication Use

Cost
Prescribed/self-administered
Polypharmacy
Nutritional supplements
Quackery

Poverty

Low income

Food expenditures/resources

Economic assistance program reliance

Food Housing Medical Adequacy Utilization

Acute/Chronic Diseases or Conditions

Major organ system disease

Constipation

Abnormalities of body weight

Cognitive or emotional problems

Bereavement
Depression
Dementia
Anxiety
ral Health Prob

Oral Health Problems Bad oral hygiene Poor dentition Ill-filling dentures

Decubitus ulcers Sensory impairment Social Isolation

Support systems
Availability
Utilization

Living arrangements
Cooking/food storage
Transportation

Unavailability of preferred foods

Dependency/Disability

Functional status

Activities of daily living

Instrumental activities of daily living

Disabling conditions

Lack of manual dexterity

Use of assistive devices

Inactivity/immobility

Age-Related Physiologic Changes

Decreased demand

Decreased metabolic rate

Decreased activity

Hypodipsia

Decreased enjoyment

Taste Smell Vision

Decreased feeding drive

Increased satiety

elderly, even at therapeutic levels.

#### Assessment

After identifying potential risk factors for malnutrition, other data may help establish the diagnosis. The most important indicator is a downward trend in weight. An involuntary weight loss of greater than 1% during the past week, 5% during the past month, or 10% during the past 6 months is indicative of malnutrition. An overall body weight of less than 90% of ideal is also such a marker. This patient was at 85% of her ideal body weight after a 15% weight loss in 6 months.

Biochemical indices are also useful in the evaluation of malnutrition. Although serum albumin has been considered the "gold standard" in evaluating malnutrition, it cannot be used alone. Many older persons who are "subclinically" malnourished have serum albumin levels within the normal range. Weight loss or low body weight is frequently more apparent in these individuals. Certainly, a serum albumin level below 3.5 g/dl indicates malnutrition. In frail older patients, an albumin level less than 4.0 g/dl may represent malnutrition. In addition, a low total cholesterol (i.e., 160 mg/dl) indicates malnutrition.

#### Intervention

The key to intervention is to start early, even before completion of the workup. Specific nutrition-promoting interventions vary but usually include increasing protein intake to 1 to 1.5 g/kg/day and calorie intake to greater than 2,000 kcal/day. A goal for optimizing adequate intake is 35 kcal/kg/day. If this is unattainable with a regular diet, supplementation is necessary. The specific type of formula is less important than providing a good source of protein and calories. Novel foods such as milk shakes, candy bars, and peanut butter sandwiches have been useful in addressing anorexia and re-establishing adequate intake. An increase in fluid intake should also be prescribed to reach a well hydrated state.

A more active and independent life style should be promoted. Exercise is important to promote appetite, increase activity, and avoid constipation. Fluid intake and dietary sources of a laxative should also be suggested as a means to maintain regular soft stool.

A home visit by a home health care nurse and social worker is often useful in the evaluation and treatment of malnutrition. This patient had ade-

quate food available in her home, as well as appropriate facilities to prepare meals. She continued to refuse to attend the congregate meal site, but was willing to go to the families' homes to eat meals several times a week. A water prescription (2 quarts of fluid per day) was given, and a reminder sheet placed on the refrigerator to help her keep track of fluid intake. She agreed to participate in group therapy to address her bereavement. At that time, it was thought antidepressants were not warranted and could potentially make matters worse through increased confusion, xerostomia, or anorexia. At her two-week follow-up appointment, her weight was 121 pounds. She was in better spirits, and her appetite had improved after the change in the digoxin dose. The patient remained committed to maintaining her own apartment, and the family was less concerned about allowing her to do so. Plans were made to follow her closely in the clinic and through home health care.

Summary

Several factors place older patients at risk for malnutrition, including physiologic effects of aging, chronic medical disease, psychiatric disease, various psychosocial problems, and effects

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of medication. Many of these factors are reversible but require early recognition and assessment.

Cholesterol and albumin measurements may help confirm a diagnosis of malnutrition, but the most important indicator is weight loss. The primary interventions for nutritional compromise are increasing calorie, protein, and fluid intakes. Nutritional supplements may need to be prescribed for repletion and maintenance. Other nutrition-promoting interventions include exercise, avoiding constipation, and dental care.

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#### RADIOLOGY VIGNETTE

(Continued from page 180.)

other imaging modalities because of its clearer delineation of anatomic structure.

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## Whither Thou Goest: A Story of Dedication

Whither Thou Goest...I Will Go, by Grace Foege Holmes, M.D. (Fairway Press, 1992); 240 pages, illustrated, paperback.

This is a personal account of the life and times of Grace F. Holmes, M.D., Professor in the departments of Pediatrics and Preventive Medicine at the University of Kansas School of Medicine-Kansas City; and her husband, Fred F. Holmes, M.D., the Edward Hashinger Distinguished Professor of Medicine and Gerontology at KUMC.

The book's title is taken from the biblical Book of Ruth (1:16-17), in which Ruth tells her mother-in-law, Naomi, who is returning to Bethlehem following the death of her husband and two sons, "Intreat me not to leave thee, or to return from following after thee: for whither thou goest, I will go; and where thou lodgest, I will lodge; thy people shall be my people, and thy God, my God: where thou diest, I will die; and there will I be buried: the Lord do so to me and more also, if ought but death part thee and me."

The title is apt, for the couple spent the first part of their medical career as Lutheran missionaries. The story begins when they met as students at the University of Washington School of Medicine, Seattle, in 1953. They married in June 1955 and came to the University of Kansas Medical Center for their internships. Grace and Fred were strong in their Lutheran faith, and both had pastors and missionaries among their relatives. They decided to enter the missionary field upon completion of their internships.

In 1960, after training in tropical medicine and instruction in the Hakka Chinese dialect, they went to their first post in Malaya, where they organized a clinic and adopted two Chinese children, Heidi and Cindy. Grace states that although Cindy suffers from the complications of kernicterus, she has been a blessing to her family and all who encounter her.

In 1963 the couple and their family returned to KUMC-KC, Fred to a residency in internal medicine, and Grace to a fellowship in child rehabilitation. During this time Grace initiated

the Kansas Infant Development Screen (KIDS), now very well recognized and used worldwide. After a three-year wait due to red tape in Malaya,

they added a third Chinese baby, Lisa, to their family. In 1967 Teddy joined the Holmes family, again by adoption. In 1968 Grace gave birth to Julia — after a potentially fatal thrombophlebitis with pulmonary embolus.

In 1970 the Doctors Holmes and their family again entered the medical missionary field, this time to serve at the Kilimanjaro Christian Medical Centre south of the famous Tanzanian mountain. Here they taught Tanzanian medical students and paraprofessional personnel so they could take over the work. Unfortunately, the Holmes family was forced to leave the country in 1973 due to the political climate and to family concerns. They returned to positions at the KU Medical Center in Kansas City, where they added a sixth child, Andrew, and have remained until well, the book was published in 1992; however, as Grace writes about their contemplating the right time to retire, the book ends with Fred saving:

"Gracie, I have a great idea! I've been doing some thinking and this seems the right thing to do. Let's go back to Africa and do some medical work there for a few years before we really retire. What do you think?"

"Now, [writes Grace] what could I say, but 'Super idea, Fred. Sure, let's do it."

I am certain that the last part of Ruth's statement also expresses the intent of the Doctors Holmes: "If ought but death part thee and me." The book is illustrated with sketches and photographs of the family at various stages of their lives and work. It chronicles the religious, medical, political, professional and personal life not only of the mission areas they served, but also of our country.

Dr. Grace Holmes has presented a very personal journal of the life, times and trials of a dedicated wife, mother, physician, missionary and Christian. Although she has gone through many

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#### **BOOK REVIEW**

(Continued from page 186.)

of the same personal, professional, marital and family problems that others have also faced, her abiding faith shines through, comforting, supporting and strengthening her and her family through all the trying periods of their life together. At a time when personal, professional and family values sometimes seem almost nonexistent, this book is a refreshing ray of hope and trust in God as expressed by two devout Christians. Friends and colleagues have probably heard many of the incidents related in the book. But for those of us who have not had the pleasure of knowing the Doctors Holmes, this is a book worth reading and keeping.



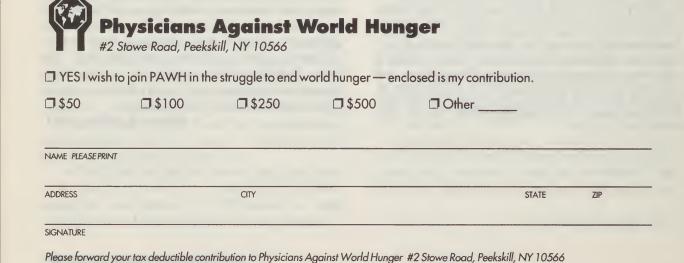
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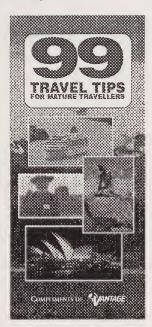
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